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Ode to CP/M★

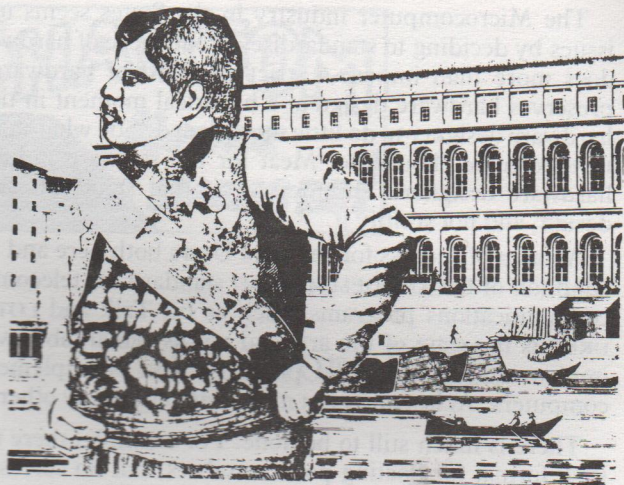
"We have not yet succeeded in answering all your questions . . . Indeed, we feel that we have not yet answered any of them. The answers we have found only serve to raise a whole new set of problems. In some ways we feel we are as confused as ever, but we believe that we are confused on a higher plane, about more important things."

★ or anything else on your hit list!

Membership Secretary
Diana Fordred
72 Mill Road, Hawley
Dartford
Kent DA2 7RZ
☎ 0322 22669

Editor
Andrew Clarke
Chilton Cottage
Chilton Corner
Sudbury, Suffolk
☎ 0787 76601

Editorial



The CP/M User Group (UK) has been active in trying to promote standards. It should, perhaps, be increasing its involvement in this; there is nothing more irritating to the average user than the proliferation of incompatible standards. The problem of CP/M disc standards is a beautiful illustration of the essential egotism of most computer manufacturers. The poor Software Librarian is constantly faced by new machines with new disc formats. The chances of taking a disc out of one micro and having it read by another is remote. There is no good reason for this. All CP/M micros with 8" SSD drives managed to read and write exactly the same format. The disease seems to have spread even to the 3" drive where, for example, Amstrad have produced *four* different formats!

Another area of weakness in computer design is the much-maligned RS232 interface. The extraordinary variety in the way in which this is interpreted is beyond belief. Every manufacturer seems to advertise RS232 interfaces but rarely can one simply connect two devices together without bother. According to Debugger, there are currently over 40 ways of misinterpreting the interface available on currently produced micros. Terminal control codes also stand as witness to the infinite variety of life in the computer industry. A simple task such as moving a cursor on a screen is fraught with difficulties because each terminal and microcomputer manufacturer wants to do it a different way. Despite attempts to bring standards to graphics interfaces, there is confusion here also.

There are several distinguished bodies defining standards. It may seem impertinent to these standard-makers to suggest that we, as a group, also have a role to play. You will, I am sure, notice that these standards are not always used and are not always useful. The industry grabs its standards where it can. Where someone has a good idea, such as Hewlett-Packard's HPGL plotter graphics language, or invents a good way of circumventing an existing problem, such as the Hayes Modem design, the industry adopts it with enthusiasm.

The Microcomputer industry in the States seems to have resolved all these issues by deciding to standardise on one piece of hardware. The IBM-PC standard does more than impose a strict standard of hardware/software uniformity, it preserves hardware design at a historical moment in time (1981) and leaves the hardware designer to do little more than decide what shade of cream the box of his IBM-lookalike should be. Meat for the software industry has been poison for hardware designer. The message is that standards should enhance computer design, and not stultify it.

An area of success for the CP/M Users both here and in the States has been the adoption of the XMODEM/MODEM7 standard for telecommunications. All current communications programs (such as DR Talk and LOTUS 123) use the protocol. UKM7 is the state of the art, and works remarkably well. The protocol and its implementation is public property, and is implemented for all major CP/M computers. At last any CP/M micro can talk to any other down a phone line.

There is much still to be done. For example, there is, at long last, a standard IEEE format for floating-point numbers, but no corresponding consensus about the format of database or spreadsheet files. Until GSX v2 (GEM) proves itself, there is no device-independent graphics language. Incredibly, we have no standard way of representing music on computers! Every wordprocessor has its own ideas on representing formatting information, and there is still not complete consensus on the 8-bit character set.

Ultimately, it has to be the user who enforces sensible standards and rejects the rather potty ones (such as the ANSI terminal). We should, I think, inform other users about these standards, judge between competing standards, discuss their merits, and help to promote the best. CP/M itself was one of the first standards in the microcomputer industry, coming soon after the S100 bus and Microsoft BASIC. These became standards because the user insisted on them. I personally dislike a standard that is not publically owned. It is in the promotion of publically owned standards that we can do most work. MODEM7 is a classic example. The music notation system in Richard Russell's superb Music program would make a good standard. The Kermit Protocol, despite being overweight and complicated, makes micro-to-mainframe communications a reality at last. (Derek has Kermit in the UK library). Giving away free software to our members has the side effect of promoting standards. If users insist on uniform standards, then the industry will provide them. We cannot rely on the industry to have enough self-discipline to impose standards on itself without certain pressure.

The industry tends to take the line of least resistance. If the easy way out is to do their own thing, then that will be what it will do, unless public demand says to the contrary. If the easiest way out is to grab at an existing well contrived public-domain standard then that is going to mean that the standard will be adopted. If you have an evangelical calling to promote a particular software standard, then put it in the public domain, let other users judge the merits of the standard, and see what happens. If you are a user who is sick and tired of unnecessary incompatibilities between micros, tell us, because the CP/M User Group (UK) is here to represent your views to the industry.



Phantom Lines

by Debugger

Digital Research are putting a brave face on the recent problems which have resulted in Motorola and Northern Telecom, two major customers, buying up to 40% of the company for a bargain-basement price. The news has been more and more gloomy as Digital Research's market share has slipped. Nearly a quarter of the staff have been laid off. Gary Kildall, the original author of CP/M, has stepped down as chief executive officer and he now controls less than 20% of the shares. The reasons for the difficulties have not been too hard to see, and it really boils down to a failure to get enough good products to market quickly enough. A big problem has been the failure of Concurrent DOS to make any impact and the slowness with which the operating system's emulation of PCDOS was implemented. Digital Research's immediate future depends on GEM taking off, and on whether they have got Concurrent CP/M right yet with release 4.1. One bright event in the gloom at DRI has been the release of CP/M86+ at long last. PCDOS emulation has been added. CP/M86+ has, most unfortunately, been called DOS+, and it is not for release to the public to put on a PC. It is an OEM-only product, so the chances of you getting the best operating system released by DRI for years for your IBM-me-too are remote. I have a pre-release copy of CP/M86+ which have some

bugs that, I am assured, have been put right. Despite this, the operating system looks excellent and should be marketed as the standard bread-and-butter CP/M rather than Concurrent. Otter, the operating system now called Concurrent DOS-286, should help Digital Research's fortunes but this is more like a minicomputer operating system and is rather too esoteric for the likes of you and I.

With the current market depression hitting manufacturers and software houses alike, it is amusing to know that the Blue Whale is suffering too. I believe they started out this year with around 600,000 XTs in various warehouses, as well as huge quantities of PC jrs. The abandonment of the PC jr is now history and I will not dwell on it. The announcement of the AT severely affected the XT market and the huge quantity of Taiwanese and Japanese lookalikes swamping the market also impacted sales. To get rid of overstocked components, XT motherboards have been shipped in PCs, causing speculation that the PC was about to be scrapped. Unfortunately, chronic disc-drive problems as well as a bug in the 80286 chip supplied to IBM have given the AT a rather patchy reputation. The wait-states in the AT meant that the AT runs surprisingly slowly and the AT lookalikes hitting the market all run faster. The PC II, which was supposed to be released in late summer has had to be put back once more because of the warehouses full of PCs and XTs. The in-house operating system to replace MSDOS is rumoured to be affected by the bug in the protected-mode operation of the 80286, and IBM has had to buy-in a multitasking operating system from Microsoft rather than use their own as planned. There is a new AT in preparation that corrects the errors in the current one and comes with UNIX. To cap all the other problems, the design team that created the PC range were all killed in the Dallas air crash.

Amstrad's extraordinary successes in their microcomputer business is more remarkable as it is set against a background of stagnant sales in business and frightfulness in the home computer market. Amstrad is talking about the possibility of sales approaching 40,000 units per month towards the end of the year. Unlike the other Mammoths of the UK industry, such as Curry and Sinclair, Alan Sugar does not present himself as a smart Alec. Years in the rough and tumble of the Audio industry has persuaded Alan Sugar that the advances in technology that should be exploited to the full are the ones that reduce manufacturing costs, not necessarily the ones that add to the functionality of the Kit. The Amstrad style of engineering is conservative and finely tuned to the art of keeping costs down. 3" drives were used, not because they were better, but they sure were cheaper. The chip costs less than the 8088 so that went into the micro, and CP/M, being out of fashion, could be bought cheaply. The result has been the 6128 machine and the PCW 8256. You can be sure that, if the 8088 becomes cheaper, he will do an IBM-just-like-them. Both Amstrad's current disk-based models are simple Z80 machines running CP/M+ with 3" disc drives. What is remarkable is the low price of the kit.

It is this price that has persuaded the punter to buy. Suddenly, last year's operating system is a best seller. Is this a maverick happening, against the trend? It is quite against what is happening in the USA, where interest is focused obsessively on ever more complex and expensive machinery based on 16- and 32-bit processors. To our friends across the Atlantic, the current interest in Amstrad kit from the European countries must seem peculiar. The UK have more computers per head of population than any other country and Alan Sugar of Amstrad aims to keep it that way with his brand of 'fair-deal' hardware. The membership of the CP/MUG(UK) has suddenly swelled with Amstrad computer users, for whom hardware and software price is the first priority. This would be perfectly fine and admirable if a small minority didn't whine so much about the cost of the membership fee!

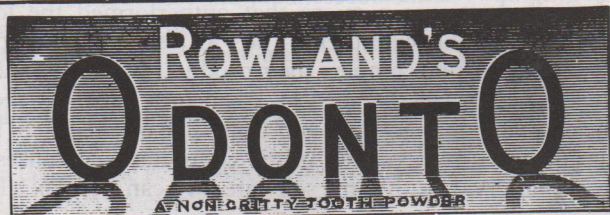
There was nervousness in the industry when rumours of the MicroVax II first came out. After all, here was a micro that outperformed the low-end VAX products, but was compatible with them. The VAX, is the minicomputer against which all other manufacturers compare their product. DEC, sadly overpriced the MicroVax II. It is a startling fact that the VAX's 42 boards have been reduced to two chips. The cheapest version is \$20,000 and from then on the prices rise sharply. There is a bug in the current version of the computer that causes it to die at apparently random intervals with some software. We can all relax a bit longer.

It is interesting to find what DRI call Concurrent CP/M. If you poke about with a debugger, you can find it called Concurrent CP/M, Concurrent, Concurrent MP/M, Concurrent DOS and Concurrent PC DOS, all in the same release! I will continue to call it Concurrent CP/M, despite DRI's apparent determination to scrub the famous name from its product range.

Just when the pundits smugly settled down with their prophecies of the death of Z80 8-bit systems apparently realised before their eyes, along comes not only Amstrad's popular machines but also a new Z80-emulation chip. The Hitachi HD64180 is a microcomputer system on a CMOS chip. The chip uses pipelining and a high clock rate to give a very good performance. On the chip is a Memory-management unit, a DMA controller, Two serial ports, a timer, an interrupt controller and a 'dual' bus interface. It has an enhanced Z80 instruction set in microcode (including multiply) and addresses 512K bytes. 8 meg samples are available, and a friend of mine managed to glue together a CP/M+ machine that had a performance of a Z80 running at over 10 Megs. (the machine runs faster than a Z80 running at a similar clock rate.) Naturally, the chip does best running software designed for the MMU so as to directly access the entire addressable 512K. In performance terms, this machine runs much faster than an IBM PC. The cost of a microcomputer based on the HD64180 depends on how far Hitachi's arm can be twisted, but will be extremely cheap; second-sourcing could make the chip extraordinarily attractive.

Polyprint was sent to me for review. This is a pretty-printing program that is a cut above the average. Obviously, owners of the Epson QX10 or QX16 with CP/M+ have Epson's magnificent MultiFont characters that give an excellent print quality for a dot-matrix printer. Whereas Epson's MultiFonts were at the BIOS level, polyprint, which seems to use Epson's Multifont characters stored on a disk file instead of ROM, can manage underlining, centring and right justification. It is available on a number of micros and seems to do the job remarkably well. I like the print quality and it is about the only way of getting decent print quality out of a dot-matrix printer. Their address is:

45b Princess Road, Branksome, Poole, Dorset.



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BBCBASIC(Z80) is an excellent BASIC. Richard Russell, who also wrote the MUSIC program, has done a new version with added features and a better manual. Get it from M-TEC Computer Services at Hollands road, Reepham, Norfolk. For those of you who do not already know, this is an emulation, for CP/M machines, of BBC Basic from the BBC Machine. Whilst on the subject of BASICS, we have just been promised Mallard BASIC, from Locomotive Software, for review. This is an MBASIC lookalike that manages to be much faster and cheaper than the original. It was shoehorned into Amstrad's Arnold as their resident BASIC.

Now that Digital Research have announced the scrapping of MP/M86, Gifford, who sold multi-user micros able to run 8- or 16-bit software, have switched to Concurrent DOS. They use their own networking based on Arcnet (at the physical level) and DR/Net. Their version of Concurrent (MC-DOS) will run 8-bit software as a task under concurrent and will run Macrotech's incredible S100 board that has an 80286 and Z80 in tandem. Gifford, who did a great amount of work with Godbaut, were bought up by Zitel. They have opened a UK office to market their new 80186/Z80H computer, called the MC-186. They also do a version of MC-DOS for the IBM-PC so that it can be integrated into a network with S100 and MC-186-based networks.

Ornithologists will be interested in the first reported occurrence of a robin being found alive inside an Epson QX10. It got into the editor's computer room through the open door and from thence tried a futile escape through a doubleglazed window. By the window lay a computer, a QX10, and so the terrified robin crept through the open expansion bus door at the back, to seek refuge on top of the expansion 64K RAM chips. Fortunately he was observed, otherwise the switching-on of the machine by an unsuspecting editor would have had far-reaching effects on both editor, software and featherware. A screwdriver extricated an unharmed but terrified bird.

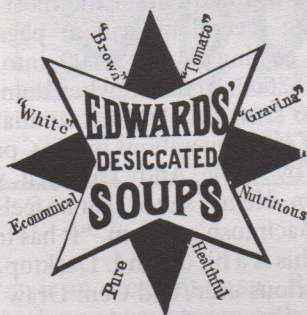
A short while ago, I looked at my PC running GEM and thought to myself, "My God, here am I running a computer that is pretending to be an IBM PC (the Sperry PC) running an operating system (Concurrent DOS) that is pretending to be PCDOS, that in turn is pretending to be CP/M with a Unix interface. It is running GEM, which is pretending to be a Macintosh, which in turn cribbed its ideas from the Xerox Star etc. I know that the industry is bent on stealing ideas but it is beginning to get ridiculous. GEM is now with us and has had one of the most expensive launches in the computer press, including several full colour pages in Byte magazine. Quite simply, it turns an IBM XT, costing around \$3000, into a passable imitation of a 512K macintosh costing under \$2000. Actually, when doing complex graphical work, the GEM version begins to struggle. Anyone familiar with the Apple will notice the slower performance of some operations in GEM, particularly with Draw. GEM was greeted with disbelief by Apple. Andy Hertzfelt, who wrote the Macintosh ROM and the operating system. He has stated that he feels that GEM is a sham that has none of the depth of the Macintosh's system. "It has to be a joke but I can't figure out who the joke is on". This is a bit unkind. Desktop, it is true, is hardly a practical environment for the serious user, and Gem Draw and Paint are scarcely likely to tempt the serious draughtsman from his paper and pencil. Graph and Word and Wordsmith are more serviceable and the GEM interface is accessible to application packages in the same way as the Macintosh ROM. The GSX/GEM ideas, particularly where they relate to device-independence, are revolutionary, and slavish copying of Macintosh-Xerox ideas do not do credit to the power and usefulness of the VDI interface. GEM's underlying strength relates also to the work done on the abortive VIP and Monarch projects, and one hopes that this strength will be exploited in further GEM projects. One hopes that OEMS write for the GEM vdi interface. I would imagine that it would take a lot of persuasion, since the USA industry fell so unanimously behind the IBM PC hardware standard, and therefore need no portable graphics standard.

Like many other programmers, I was temporarily dazzled by the power, rationality and reasonableness of the NatSemi 16032 (or 32016 as they now call it) chip. It has emerged in few computers and none have been roaring successes. Symmetric Computer Systems, Siemens, and a few others have launched a Unix box with it on, there is a Godbout S100 board with it on, and a 'joke' plug-in board

for the IBM-PC (the Tiger-32). I suppose that the Acorn device with the chip will emerge in some form. The chip seems to attract the low end to the minicomputer market, and no one has managed to produce a good cheap micro with the chip in it. Does anyone even remember the promise of concurrent CP/M for the chip? To give Natsemi credit, the 32032 is now being shipped so it may be that the device will take off rather more successfully than the 16032/32016.

The current IBM-me-too madness in the States has now infected the industry to the extent of 85% of the market. Latest to succumb is the Apple Macintosh that has now an add-on piece of kit that converts it into an IBM clone. It is called MacCharlie, from Dayna Communications and would cost £2,695. It will attract few purchasers beyond the lunatic fringe.

The manufacture of Apple's revolutionary but overpriced Lisa has ceased. Ah well. It certainly lasted longer than Amstrad's 664.



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We all know and love the Data General IBM-PC-compatible handheld, that is if we have aircrew eyesight. Canon has a new 256K handheld clone with twin disc-drives and a built-in modem. A brave attempt to break from the IBM-I-AS-WELL mould is the Ampere WS-1 which sports BIG.DOS rather than PCDOS. It is dedicated to APL and should prove handy for the users of the language. Generally, the lapheld market has been disastrous for the brave companies who entered it. Of the 150 companies who offered lapheld and portable micros, fewer than 40 have any hope of surviving. It turns out that the public did not necessarily want portables, they just wanted cheap micros.

The lacklustre IBM-AT has led to a predictable stampede to clone it. After all, if the IBM PC was such a good bet, then what about the AT? (remember those poor souls who tried to clone the PC jr?) Any IBM-AT-me-too worth anything boasts a better performance than the AT and many abandon the awful high-capacity floppies.

Kaypro, Televideo, Basic Time, Corona, TI, Zenith, NCR, Wang Mad, Intertec, ITT and Compaq are all launching or are shipping AT-compatibles. The Taiwanese and Korean trade magazines are flooded with AT copies all claiming low prices. Another way of exploiting the interest in the 80286 is the supply of a plug-in board for the aged IBM-PC to give it a measure of AT-compatibility. The most comprehensive attempt is by Phoenix, with their Pfaster286, which provides emulation of the AT ROM but does not provide complete AT emulation. The 80286 is a very powerful chip, certainly able to hold its own against the Motorola 68000 chip. It has the enormous advantage of 8086-compatibility. However, the current release of the chip has a bug in it that effects protected mode. The 80286 chip has two modes of operation and in protected mode, it can support up to 16 megs of memory (it can address more than your bank balance can), and there is memory protection, such that one process cannot mangle another. Unfortunately, the protected mode does not work properly, and will not do so until the F revision due out in the autumn. This may not cause any anxiety now, but it most certainly will soon, as IBM's new PC DOS 4 and Digital Research's Concurrent 286 (otter) both are written to take advantage of the advanced features of the chip. They simply do not run on the current versions of the 80286. DOS 286 dies horribly on the C.2 version of the chip. All this will soon be mended, though all the current crop of 80286 machines will fail to run the new software. Intel have started sampling 12 Meg versions of the chip but you cannot get any faster chip than the 8 Meg at the moment, whereas AMD are already selling 10 Meg versions of the chip. The 10 Meg 80286 has performance that is roughly equivalent to Motorola's newest chip, the 68020, running at 16 Mhz. There is a VSLI chip for the 80286, Edsun's EL286-88 that allows it to run with the slower but cheaper 8086 peripheral chips, and a custom IC maker is producing a set of chips that emulates the IBM Enhanced Graphics adapter. One day, perhaps, we will see really cheap IBM-clones.

A couple of really neat programs came to my attention. PRF is a proofreader. It makes Spellstar look very sick. In fact, I have never seen a better, or easier-to-use spelling checker and correcter. If one makes a mistake one wants a display of words like it in order to spot the correct spelling. PRF has the complete Random House Dictionary typed into it. When the program finds a word that it cannot match with its dictionary, one can correct it, force the computer to accept it, or request the program to add it to the dictionary. The dictionary's spelling is americanised (-ized); there is a facility for correcting, ie anglicising, the dictionary, but a fair amount of disk space is needed to cope with the backup file produced from the 190K dictionary. PRF is published by Aspen Software. RHT is a computerised version of the Random House Thesaurus. It is dead simple to use: one types a word and a list of synonyms and near-synonyms is displayed in a twinkling. I use it when I am trying to write stuff, and also for programming. After a while, one gets very prone to cliché in creating new symbols that are unique within the program, and the use of RHT is a handy tool. It is published by Dictronics Publishing. If anyone can find their address, I would like to buy a licence and cannot trace them.

I forgive Microsoft everything, because they brought the wonderful Multiplan and Flight Simulator to market. I am so benign to them that I have scarcely dealt in the past with their unsuccessful attempts to make MSDOS into a multi-tasking operating system. It was announced a few times but failed to appear, and it was said that IBM's attempt to write their own PC DOS 4, was a response to this. Bill Gates eventually admitted that it couldn't be done with the current MSDOS. The version under development v4 will, I am told, include multitasking. Actually, it is very near to the overweight Xenix, so it may not be worth getting overexcited about it. Gossip has it that their multitasking MSDOS has the guts of Xenix with an MSDOS shell similar in principle to Concurrent DOS, which uses the guts of the now-defunct MP/M. Obviously, Concurrent CP/M manages Multitasking and is available now, so the only way to run more than one task on a PC is to run CP/M (or Concurrent PC DOS, as they insist on calling it). The recent news of Microsoft's deal with IBM to jointly develop IBM's microcomputer operating systems is interesting in the light of IBM's former decision to go it alone and do their own PC DOS v4. What it really seems to mean is that they failed to produce their own multitasking operating system and needed Xenix so much that they had to reverse their policy and go back to Microsoft. It is interesting to note that they did not go to Digital Research for their own multitasking PC DOS (Concurrent DOS), but then DRI no longer has a UNIX. Microsoft's Xenix-286 has become essential to Bill Gates' plans for the next few years. It has been converted from System III to System V and they are due to sell it to the originators of Unix, AT&T. Curiously, a new Multitasking/multiuser operating system, Quantum's QNX, which can run PC DOS programs in a network environment based on X25, claims to be ten times more efficient than Xenix (run in a tenth of the time of Xenix). It would be interesting to compare its PC DOS emulation with the real thing.

Readers might be puzzled by my interest in the Jackintosh, the Atari ST. I had a nice session playing with the machine, only to discover that it was running hoary old CP/M68K! We can now welcome all those punters who buy the machine into the CP/M User Group (UK). Of course, Digital Research and Atari will be disguising the fact that it is CP/M by giving it a silly name, but the pre-release version I used was brazenly announcing itself as CP/M68K. My god, I hope they have improved the C compiler a bit! After playing with GEM and the mouse for a while I got very bored. There was very little software with it and so it was hard to work up enthusiasm for it. There is talk that Digital Research are going to respond to the software famine by putting an 8088 emulator and the PC DOS mode so that it can run IBM PC stuff. Could this be true? Stranger rumours are flying around, including an Apple IBM-i-also.

I can exclusively reveal that the Editor is a closet Amstrad user. He not only has the original Arnold model with CP/M 2.2, but also has the 6128 with CP/M+. He is an avid player of Fruity Frank and has achieved Frisky Freakdom on many occasions. He has a game called Harrier Attack where one flies off an aircraft

carrier to an island, where one drops bombs on Argies (when I phoned Amsoft to protest about this lack of the spirit of reconciliation in international affairs and asked them if they distribute the program in Hispanic countries they coughed and muttered that they were careful about certain national sensibilities). He introduced the 6128 to Uncle David recently. Uncle David, regular readers will remember, is happiest curled up with a good assembler, hacking away at a device driver and spurns all frivolous uses for a computer. Behind locked doors, he was introduced to Fruity Freddy. Within a matter of hours he was achieving Fruity Frank Frisky freakdom left, right and centre and committing genocide all over the Argies.

In an important development, Verbatim have announced a usable erasable optical disk. It is a handy 3.5" device holding 40 Megs of data. The media will be removable and the device should cost about \$300. It will not be for a couple of years until the device is common, so other mass storage media will be safe until then. Sony is already shipping production quantities of their 12" erasable drive, and Hitachi's 550M drive is close to production. Pioneer, Toshiba, Sharp, OSI, Optimem, Pioneer, and Matsushita all claim to be working on erasable optical disks. The 3½" hard disk market is getting more exciting as prices drop. Tandon is escaping from the hurly burly of 5½" floppy drive market with some very aggressively priced hard disk drives, the 10 meg version selling to OEMs for around £100.

We get some queer bods joining the user group. Most of you are distinctly marvellous but we have had a minor rash of bores. One such cove recently joined the group and instantly demanded several software volumes for his Amstrad. At that particular moment we were besieged by aficionados of the dreaded Amstrad 'Arnold' all patiently waiting for Derek to crack the Amstrad format (there are four Amstrad disk formats, thanks to Locomotive Software's creative endeavours). We have to connect the 3" drive to a nice sensible 8" disk machine in order to copy the large number of orders. Our members all know that the service is supplied by Diana and her helpers on a completely voluntary basis out of the kindness of her heart, and understand the delays. Not so this character, who drew himself up to his full height and demanded his software immediately or he would insist on having his membership fee back. Diana was understandably unimpressed and told him where he could put his 3" machine. The wally then wrote a dignified letter of complaint to Amstrad, quoting all the letters after his name. Amstrad wrote back to him saying it was no concern of theirs and we were relieved of his membership. The editor asked Amstrad to send us the letter so that we could publish it in this journal but I'm afraid they declined.

EcoSoft, who made a very good full K&R C for the Z80 have produced a very cheap C for the 8088. It only costs \$50 and is to be recommended. I believe the Z80 and 8088

products are compatible so as to make portability between the two chips no problem when writing for the compiler. Aztec are still trying to iron out the bugs in their 8086 compiler. They are up to version 3.2 on the 8086 compiler and 5.3 under CPM-80. You need a lot more cash to get the Aztec compilers (\$500 for the 8086 version) but they do have a Macintosh version which is said to work quite well. Meanwhile, the first decent LINT preprocessor for C has come onto the market. Phoenix's Pre-C will isolate bugs in C programs that compilers let through. Essentially, it makes good the severe defects in the language's type checking.

Are you sick of overpriced software? Someone in the states did some research, and discovered that \$29.95 was the optimum price for IBM PC software. Less than that and they didn't respect the software, more and they thought twice before buying it. Hence the price has caught on and Ellis Computing's 'Utah' range of Pascal, Basic, Edit and Pilot all go for the magic amount. Ellis, of course do the 'Nevada' range of cheap CP/M80 software for all you Amstrad users (the editor has instructed me to be nice to Amstrad users as they are flooding into the society). Cobol, Fortran, Pilot, Edit, Pascal and Basic are all for sale at the magic price. The MIX editor, able to edit several files at once, is another introduction at the magic price.

Avid readers will remember the competition for synonyms for such cliches as IBM-compatible and user-friendliness (which was cribbed by a computer glossy incidentally). A recent Suffolk User Group meeting had a working party coming up with synonyms for user-friendliness as follows.....operator-amity, controller-concord, perpetrator-solidarity, practitioner-intimacy, executant-cordiality, manipulator-kindliness, utiliser-genial, consumer-benevolent, exploiter-obliging, worker-entente, catspaw-chumminess, user-comradely and minister-fraternity. I hope readers will send the editor some synonyms for IBM-compatible. Arthur Megabyte suggested IBM-akin, AT-analogous. Blue-Whale-Equivalent, PC-parallel, XT-mimicking, PC-plagiarising, Big-Blue-impersonating, and so on. Can anyone do better?

I get quite a few software packages sent to me. It was rather startling to receive a shrink-wrapped package called Forth Programming AIDS. I stared at it nervously for a few days, wondering whether to dare to open it. Eventually, a visitor showed an interest in it and, to my relief, bore it off. I haven't heard from him recently, come to think of it.

The IBM-PC is getting decidedly dated. It was, after all, designed in 1981, when the microcomputer industry was rather different. For some reason, the machine seems to sell well, and there is a healthy industry in trying to speed the beast up. Some clones have the decency to put in an 8-meg processor (eg. Olivetti and

Sperry) and there are 'remedial' boards such as the MicroWay with matched 8086 and 8087 at 9.5 Mhz. A different technique comes from Orchid, being an 80186 co-processor, making the plot run faster than the AT. Similar in concept is ASP's PC/286 plug-in card which uses the 80286 instead. Wavemate do a substitute motherboard with an 80286 on it; just rip out the old XT motherboard and shove this one in instead. It doesn't give you AT-compatibility but it will sure make you feel better. Phoenix's board, probably the best of the bunch, is mentioned elsewhere in these paragraphs.

There have been few significant new chips released recently. One of the most interesting has been Novix's 16-bit microprocessor executing FORTH as its machine instructions. Motorola's superchip, the 32-bit 68020 has started to appear in a micro (the Altos 3068) and promises lightning performance. Unfortunately, the 80386 will not appear for a long time. Zilog have, once again, put back the release of the Z800 and the Z80000 and it may be that they will drop the whole idea. AT&T's new 32 bit chip set has been released to other companies but is unlikely to make much impact on the scene.

After the microcomputer industry has got used to 80% expansion for a number of years, a sudden drop to 30% expansion has caused all sort of problems, particularly in the States. There are a huge number of causes to the decline in the rate of expansion, though the omnipresence of IBM must account for part of the current problems. There are roughly 350 manufacturers of microcomputers and this number will probably have dwindled to less than 100 in a year's time. In one year, (1983-1984) IBM's own market share of the office computer market rose from 30% to 40%. Whereas Apple's share rose also (from 11.5 to 13.5) and Compaq, Wang, Zenith and Dec had a good year, it was difficult for virtually everyone else, particularly HP, Tandy and Kaypro. The trend for IBM-PC compatibility in the States tightened its grip last year and continues to do so. IBM achieved a 40% growth in sales of PC/XTs, and Lookalikes all did well. IBM sold 1,024,000 PCs worldwide last year and look set to sell 1,500,000 this year. Apple was saved from disaster by surprisingly buoyant sales of the Apple II, an older design even than the PC, and sold only 250,000 Macintoshes. The Macintosh is only recently gaining in popularity, along with the 'Big Mac' 512K machine with a second disk. The arrival of Lotus's Jazz, and Microsoft's Excel make the Mac into a much more promising office machine. The best guesses predict that Apple will sell 500,000 Macintoshes this year. CP/M computers had a relatively bad year, only 350,000 being sold. This is, of course, fewer than IBM and Apple. Surprisingly, MSDOS computers have fallen from fashion in favour of PCDOS and full you-know-who-compatibility. Thus, if CP/M has had a bad eighteen months, MSDOS has had a worse one.

The demise of Tamsys is yet another sad sign of the hard times befalling the software distributors. Although I feel sorry for Tamsys, due to the fact that they worked hard, were friendly and really cared, I feel even sorrier for their creditors when they went bust. The saga of Redwood vs Pipeline/Tamsys has been livening up a rather dull summer computer press. Amongst other things. As well as its obvious problems with undercapitalisation, Tamsys was a victim of the trend by the large USA software houses to deal only with large-scale distributors. Tamsys specialised in offering a larger measure of support than average, whilst covering a large range of products. It was impossible as a small specialist company to purchase software in the bulk quantities increasingly demanded by the well known USA software houses, even though Tamsys had distributed their products for some time. My own experience of many Stateside software houses is that they generally conduct their UK business with a mixture of insufferable arrogance, unhelpfulness and duplicity, and it would not surprise me if the difficulties suffered by most of the UK distributors have been compounded by this. The States has a huge lead in software development, due more to the large home market and the fact that USA venture capitalists have a more adventurous spirit than the City of London. They currently take about 70% of the world market. One hopes that the apparent unwillingness of some of the USA software houses to approach the european market in a professional manner will encourage and foster our own UK software industry, which currently lags way behind the Japanese and French industries in terms of world market.

Siemens has joined Maxtor and Applied Information Memories in shipping a 5¼" Winchester with more than 300 Meg capacity. A problem that these drives face, with their higher density, is that the current hard-disk transfer rate of 5 mbps is no longer adequate and they are using the ESDI interface with 10 mbps transfer rate, the same transfer rate as the SMD interface.

It is now possible to run PCDOS in an S100-bus system, thanks to a new board from Lomas, that gives the essential hardware environment of colour video, keyboard interface, and timer. With their Lightning 286 board and a few other bits and pieces, one has a PCDOS computer running at twice the speed of the AT. Godbault have a video board as well but I do not have the details yet. Generally speaking, the S100 scene is beginning to tail off in favour of using the PC bus. Even in industrial automation, the PC bus is gaining a foothold, even though the IBM PC itself is unsuitable. Both S100 and STD bus are losing ground in relative terms although, in absolute terms, both types of card have never sold as well as they are selling now.

Letters to the Editor



26 College Road
Bromley
Kent BR1 3PE

Dear Mr. Clarke,

How nice to see the letter from Rob van Albada in February's issue. Any mention of NewBrain is welcome to those of us who hack unseen through the undergrowth of lesser but better selling computers. But . . . I suspect the letter had been around for a while because there are, and have been for some time, two thriving user groups for NewBrain in the UK.

Our own group is OPEN #STREAM (the name comes from a command in NewBrain BASIC, with UK and international membership, publishing five newsletters a year. We started last June, and have already developed:

- A software library of over 10Mb for 32K and 96K tape and disk-based NewBrains.

- Documentation unpublished by Grundy

- An SIA for 'Brain users on the Blandford Board, full configuration of the sound and digital-analogue-digital converter on the Newbrain Expansion Board.

- A full description of the previously undocumented device drivers on the 'Brain.

- Fully commented source code for the version 2.0 DOS ROM BASICODE reader/converter (though we never persuaded the BBC that we existed, let alone had anything to say about BASICODE and now it's dead).

- and we are working on a plug-in modem/parallel port for the unexpanded NewBrain and possibly a 128K RAM expansion for the 96K system.

We have a library of user software, sold on the same basis as CP/M group, with text-handlers, databases, disassemblers and utility programs, and even games, for both 32K and 96K systems, in association with the Dutch, Danish and Italian NewBrain users groups. Having only just discovered the French NewBrain group, we hope we will be able to work together with them as well (did you know that the French for byte is octet?).

Membership costs £10 a year, and you can write to me at the above address (☎ 01-290 5262/061-434 1810). The other group in the UK is NBUG, run by Gerald McMullon, who used to work for Grundy until it went smash. Bigger than OPEN #STREAM, and cheaper too, they publish NBUG magazine six times a year, and through Gerald's company GFG Microsystems Ltd, and some other firms, will supply hardware add-ons and software for the 'Brain (pricelists are in NBUG). It costs £6 a year to subscribe, and you write to Gerlad McMullon, NBUG, 36 Armitage Way, Cambridge CB4 2UE.

An earlier group, INGROUP, run by Anthony Hodge in Wakefield, is said to be still operating, but does not publish anything at present.

Details of the overseas groups are to be had of OPEN #STREAM, which receives their magazine and is able to put users in touch.

Yours sincerely

Philip Crookes

OPEN #STREAM

35 Avenue Chevreul
92270 Bois-Colombes
France

☎ (1) 784.89.56

Dear Andrew,

And now for something completely different:

When I started word processing in 1980, the manuals were bad, *but* I was highly motivated by the incomparable difference between a typewriter and a wordprocessor.

It has been my lot this year to try out various IBM-compatibles for a friend. Lovely free hands-on try out for me, one might think (I certainly did before it started). Wrong! The instructions are just as bad as ever they used to be, but much longer now and glossy too. They still tell half truths, which a literal minded chap like myself can't see round, e.g.:

- 1 ALT plus numerical code gives combinations that are otherwise unavailable – but *only* if you use the numeric pad, which simply never occurred to me as a practised typist, especially since those keys are mixed up with cursor arrows.
- 2 The User Group program PC-TALK uses Christensen's protocol, which is nice for transferring text to and from CP/M machines. PC-TALK even has an option for paying no attention to the handshaking my Sorcerer does not do. You put the

letters ,cs,ds in a configuration table, like in the OPEN instruction in IBM BASIC. Wronggg! That just primes a crash for next time you try to use disks. You actually need to use ,cs,ds – that's right, lower case works like the book says upper case should, while upper case prepares a delayed action crash.

- 3 When trying to back up PC-TALK prior to fiddling about to make it work. I managed inadvertently to record a file on the source disk. This file was of zero length and called itself *.* – that's right, "star dot star". Doubtless my fault for thinking in the CP/M order, but thereafter copy instructions would no longer work the way the book said, and the error messages were unhelpful. It was several days later that I spotted *.* as a bastard file name. Getting rid of it isn't too obvious either!
- 4 Microsoft's 'WORD' is protected, but "never mind", they say, "copy your system onto the distribution disk and away you go." Mine tells me there is no room. I have yet to find out if that is because the distributors of the French version (a) forgot to leave room, or (b) had no room left after converting to French. or (c) expect the system to be copied in a manner other than that described in the manual, or (d) didn't expect a system as big as the one used by this month's 'compatible'.

I could go on. Clearly none of the manuals I have tried to understand has been tried out by someone who did not know the answer beforehand. Unlike five years ago, I am no longer highly motivated. The difference between a familiar word processor that does nearly everything (and without my thinking!) and a slightly more powerful one that I must learn to drive in spite of the manual, is not much of a carrot.

Have other people found the IBM world quite so off-putting? Is the MAC world any better?

Yours sincerely,
Andrew Marland

Telegram from Russia.

Send to aritchhoff Palace St
Petersburg immediately one dozen
Mariani Wine for H I M
Empress of Russia

A subsequent letter, ordering a further supply of 50 bottles of Mariani Wine, states that H.I.M. the Dowager Empress of Russia has derived the greatest benefit from its use.

Mariani Wine Fortifies, Nourishes, and Stimulates the Body and Brain. It Restores Health, Strength, Energy, and Vitality.

43 Scotland Street
Edinburgh EH3 6PY

Dear Andrew,

My reason for writing is to seek some advice. If you do not know the answer to this question, or do not have time to deal with it, perhaps you would consider publishing it in the next issue of the newsletter?

I have a Memotech CPM system, the keyboard of which I have finally decided I just cannot live with. As a solution to this, I'm considering adding a separate terminal using one of the RS232 ports on the machine, and using this in preference to the supplied keyboard and monitor. My question is this: exactly what is involved in rewriting the BIOS to use one of the RS232 ports for console output and input? Is there a book around which would lead me through this, step by step? Or is this something I can pick up more or less off the shelf from somewhere else, and use with a minimum of modification? I'm not an assembly language programmer, and although I'm willing to learn, I don't have a great deal of time to mess around right now, so I'm looking for the quickest way round the problem.

A subsidiary question relates to the use of the RS232 port. The machine has two such ports, one of which has restricted facilities (pins 2, 3, 5, 20 and 7: RXA, TXDA, DTRA/RSTB, CTSA and Ground (?) in that order). I use the other (unrestricted) port for modem use, and so I would want to use the restricted one for the terminal. Will this work?

I hope someone can shed some light on this for me.

Yours
Robert Dale

Breckland Business Systems Ltd.
55 Southlands
Swaffham

Norfolk PE37 7PF

Dear Sir,

We write regarding Dick Sargeant's article on Easylink, in your February issue, and would like to answer one or two of his criticisms.

Whilst we agree that the manual could be laid out better, many Easylink members join up via a micro dealer, who is able to guide them over the initial problems of accessing the system etc., without recourse to the manual.

Easylink offers a superior security system to its competitors, by adopting a published mailbox number for each member, which is only used by outsiders, when communicating with the member. The latter only accesses the system by his User Name, User Number and Password (as outlined by Mr. Sargeant). If Mr. Sargeant considers the latter, together with the terminal code, is too long and complicated for most people to remember, why not enter these into a one line data file, with a name like "Easy", and send this upline to "log-on", at the ID Input Prompt, as we do? Furthermore, one does not need to acquire a word processing

package for text file preparation, such as WordStar, since CP/M's EDITOR, or MSDOS' EDLIN will suffice, particularly as these require one to enter a carriage return after each line, thus reminding one of Easylink and BT Gold's 68 character line length limitations.

We use ASYNC-86 Terminal Program on our desktop NEC machines for electronic mail, but more frequently use the built-in Telcom program of NEC's PC-8201 lap held portable. This latter is one of the cheapest form of E-Mail Terminals. We find the most cost effective ways of reading one's mailbox is to use the /MBX facility, and thus download the entire contents into a file, for subsequent perusal off-line.

Easylink publishes directories of users for those in allied trades, so one does learn of some useful members' box numbers, if not all! To our knowledge, BT Gold have yet to publish *any* directories, leaving one to find out fellow members by chance, via headed notepaper.

Easylink is about to offer radio paging, like BT Gold's, but also pss transatlantic communication, direct into users' mailboxes on Western Union's vast network, thus making it considerably cheaper than telexing these boxes, as at present.

We have previously been members of Istel's Comet (which is far too expensive, though quite good), BT Gold, and Easylink. We recently resigned form Gold, as *it is too time/cost wasting, going round the system, before eventually being able to* read and send mssages and, particularly, telexes. The text of these latter have to be entered into a buffer before one can enter the addressee for forwarding. Thus, Gold's cheaper off-peak computer time charges are negated by higher telephone costs, compared to Easylink's fast log-on, log-off system. BT Gold also has more control codes for operators to remember, however useful their functions. So for the business user, who is not interested in many of Gold's extra free facilities, which mainly appeal to hackers, Easylink is far more speedy and efficient for the sending of telexes or mail messages. Furthermore, the monthly invoices itemise every message into and out of one's mailbox (whether free or charged for), together with departmental breakdowns for those larger corporate members.

An interesting side effect of being on electronic mail is that one's telephone bills go down. We can only attribute this to the fact that when sending messages or telexes to commercial users, the contents go into an in-tray, to be read by the recipient when he looks into his box, whereas with a long distance 'phone call one is left hanging on whilst the switchboard tries to locate the person one is calling! Furthermore, if they wish to speak directly to you, they call you at *their* expense – not vice versa! Thus the total costs of Easylink and telephone remain the same as just the previous 'phone bill, effectively offering free telex and electronic mail!

Yours sincerely

TM Hunt

Director, Breckland Busines Systems Ltd

Mabrook
Summerhill Lane
Haywards Heath
West Sussex RH16 1RL

Dear Andrew,

Three mentions in *one* issue – does that make me nearly famous?

I hope Ian Phipps read through the rest of the journal containing his letter about s5/8. Not only did it contain yet *another* article about s5/8, but also a 6-page article about problems with inter-connecting RS232 peripherals, neatly highlighting the need for better standards in this area. Even BSI recently felt it necessary to publish a standard for how to use RS232 as a local interface. A standard to explain how to use another standard – a damning criticism, I would have thought.

Also Ian should contemplate the situation of his Epson PX-8 portable computer communicating with his Epson CX-21 portable Acoustic Coupler. Both are battery operated and both have circuitry costing the user several pounds for generating bipolar voltages from their batteries and driving the RS232 lines, all to send very slow speed data down four feet of cable. Consider the cost savings the user would get if RS232 were eliminated from both units. Not to mention the simplification introduced by s5/8.

More seriously, thank you for publishing the s5/8 Serial Interface Standard proposal. The latest news on s5/8 is that the technical specifications are currently being revised and rewritten in a form suitable for presentation to BSI as a work item. Also being collected are letters of support from interested parties to be submitted to BSI along with the proposal. Any members who feel they would like to lend their support to ss are invited to send letters of support to me, via the editor.

On the more general aspect of Standards, I would like to raise the question of the CPMSDOS Users' Group becoming involved in the creating and making of standards.

I act as Technical Consultant to the Public Services Working Party (PSWP), a standards making and promoting body, chaired by the Central Computer and Telecommunications Agency (CCTA). This has recently been incorporated as Working Parties 1 and 2 of the Focus Action Group, reporting to the FOCUS Committee. The membership is made up of representatives from both the Public and Private Sector bodies.

A group such as the CPMSDOS Users' Group, with its extensive and knowledgeable membership, could provide a very worthwhile contribution to such standards-making activities. I would be willing, if the Users' Group Committee were agreeable, to act as the Group's representative, putting forward the views of the Group as a whole.

The main area of activity of the PSWP up until now has been hardware standards, my own major area of interest, in particular the 3.5" Public Services Disk Format

and the ss Serial Interface Standard. However, the association with the Focus Action Group will cause a considerable widening of scope, with many more areas of standardisation being considered.

The primary aim of the Focus Action Group (FAG) is the creation of standards suitable for procurement, an aim equally applicable to the members of the Group, I would have thought. Most of you *buy* computer equipment, rather than *make* it.

HE CHANGED HIS UNDERCLOTHING TOO EARLY IN THE SEASON, AND PAYS THE PENALTY. ST. JACOBS OIL PUTS HIM RIGHT !



Mr. G. PILFORD & CHILD.

honest evidence as this that one becomes convinced. The case of Mr. Pilford is one of the many who, by carelessness or otherwise, contract rheumatism, for which St. Jacobs Oil is the only known and positive cure. Price 1½ and 2½, of Medicine Dealers.

A GREAT mistake which many people make is in changing their underclothing too early : they had better by half suffer a little inconvenience from a few spring days of warm weather than run the risk of taking a cold, which may develop into rheumatism, as was the case of

Mr. G. Pilford, clip candle maker, living with his family at 50, Stanley Street, Brighton, who writes us as follows, under date of April 5th, 1894 :—

"I write to tell you of the great benefit I have received from the use of one bottle of St. Jacobs Oil. Last Friday, the weather being warm and fine, I foolishly decided to leave off some underclothing I had worn all the winter. The next day I felt a severe pain shooting down my back, which grew worse until Sunday, when I was fairly doubled up with pain, quite unable to stand upright. On Monday I thought of St. Jacobs Oil, about which I had heard so much, and procuring a bottle my wife applied it to the entire length of the spinal column twice during the day. On Tuesday I was so much better that I could stand upright, and the pain was very much less, nevertheless my wife applied the oil as on the Monday. On Wednesday morning another rubbing, and I started for the factory to tell the governor that I should be able to come to work the following morning; but I felt so much better when I got there that I said to my shopmates, 'I don't feel any pain about me; I think I will stop,' so I changed my clothes and went to work then and there, and have not felt the slightest pain since."

"I shall always strongly recommend St. Jacobs Oil. You may publish this letter, and if anyone likes to call on me I should be pleased to tell them of the great benefit I have received."

It is when one reads such straightforward, honest evidence as this that one becomes convinced. The case of Mr. Pilford is one of the many who, by carelessness or otherwise, contract rheumatism, for which St. Jacobs Oil is the only known and positive cure. Price 1½ and 2½, of Medicine Dealers.

I think I would not be wrong in assuming that most members' prime interest is in software, rather than hardware, but there is standards work to be done here too. A recent questionnaire sent to me by the Chairman of the FAG contains 26 questions, each covering a different topic, including the question of standards for languages in general – COBOL, PASCAL and FORTRAN in particular, and also the GKS Graphics Kernel System. The CPMSDOS Users' Group would be in an extraordinarily strong position to make pronouncements on these subjects and actually influence the content of future Technical and Procurement Version Standards.

Two other areas that I wish to raise for Standards-making activity are National Character sets (occasioned by our need to make versions of our products for different overseas markets) and a more close to home subject I think most members will have experienced: the lack of a standard for printer Control and Escape codes. A standard exists for VDU's (ANSI X3.64), but no equivalent exists for printers, and as a result there are only de facto and manufacturers' standards, all differing widely.

Another area in which I am involved on Standards is through the Information Technology Users' Standards Association (ITUSA), which also operates Action Groups on particular topics. I am a member of the Action Group on Integrated Services Digital Networks (ISDN), a vast subject, which touches on almost every other area of standardisation in Information Technology, but is, of course, primarily concerned with data communications on Local, Metropolitan and Global scales.

This has connections with Local Area Networking and the ISO 7-layer model, which is the primary interest of the FOCUS Committee. Indeed, I feel that one of the major challenges for standardisation in the near future is the bringing together of ISDN and the 7-layer model.

If you think that the CPMSDOS Users' Group should be involved in the important area of Standards in general, or if you have specific views on Standards for particular subjects, write to the Editor and make your views known. Instead of complaining about what exists, you now could have a route to change things – for the better.

Yours sincerely
Andrew Hardie

Ed: We are very keen on throwing our weight about on the subjects of standards and the committee are keen on hearing views of members on the vexed question of hardware and software standards. Write to us, preferably for publication in the journal.

British Railways Board
The Railway Technical Centre
London Road
Derby DE2 8UP

Dear Sir,

How dare Andrew Hardie take it upon himself to propose a new serial interface standard when so many people have laboured for years on committees to produce the complex and all-embracing standards that we have? How dare he try to do away with the hours of employment we all have when interfacing a new item of equipment? Does he want to bankrupt all those companies making and selling breakout boxes?

Seriously though, he is to be commended for his attempt to produce a useful standard which maintains sufficient compatibility with the existing vv devices to

be usable with the majority of them. The main objection is the use of the rare 8-pin DIN connector, which is forced by the inclusion of handshake, status and power lines. Most vv devices will function with a single 'ready' line each for input and output faked from those available, so I suggest that the status and power lines be changed to:

pin 6	user defined/status input
pin 7	+5V/status output

thus making it possible to use the compatible range of 3-pin, 5-pin 180, and 7-pin connectors, and removing problems caused by connecting two power supplies together via pin 8.

The use of an unbalanced 5V signal level clearly reduces the noise immunity compared with RS232C or RS422, but should be sufficient for the length of cables commonly used. It would be interesting to see any results Andrew has on transmission speed reduction with distance etc.

Yours faithfully
GE Taylor

33 Dunes Road
Greatstone
New Romney
Kent TN28 8SS

Patching PIP – Vol. 2 No. 5

Dear Andrew

Attached is a copy of RPIP with some errors corrected, so that it now runs on my BBC Z80. As a newcomer to CPM it has taken me some time to identify the errors by reference to the manual, comparison with other listings and some guesswork.

Errors found were:

1. No colon at start of program.
2. Label `d f c b` printed as `d b u f` at the top of page 63.
3. 5 labels printed split on page 63.
4. 4 messages carried over onto a second line without `;` on pp.63/64.
5. `'s'` used as "tag end of command string for message" instead of `'$'`.
6. Msgs 1 and 2 included `<` and `>`, and not `,` between `<cr>` & `<lf>` and did not end in `'$'`.
7. Msg 3 did not end in `'$'`.

As I have found the routine very useful for copying data files from one data disk to another without RPIP disk being present, I hope the above information will help other users.

Regards, yours sincerely,
Mike Cozens

Ed: Listings are set out much more clearly by use of the fixed space font that we are now using, but I repeat my plea that listings especially be sent in on disk wherever possible, to avoid errors being introduced in rekeying.

```
;PIP PATCH TO ADD RESET DISKS & QUICK REPEAT
;CPMSDOSUGUK VOL2 N05 FEB 85
;WITH PRINTED ERRORS CORRECTED
bdos ^05h
fcb ^5ch
dfcb ^080h
pmessg ^9
rdcbuf ^10
rsetdsk ^13
start$pip ^04ceh
con$buff ^1ecbh
pip$scr$lf ^082eh
pip$prompt ^053ch
pip$patch ^096fh
lf ^0ah
cr ^0dh
org 100h
jmp begin
org 10ah
begin: 1da dfcb
ora a
lxi d,msg1
cz prnt%messg
jmp start$pip
added: lxi h,con$buff
mvi m,128
xchg
mvi c,rdcbuf
call bdos
lda con$buff+1
cpi 1
jnz save$char$cnt
lda con$buff+2
ani 05fh
cpi 'Q'
jnz reset$dsk$sys
lhld char$cnt
shld con$buff+1
lxi d,msg3
call prnt$messg
lxi h,con$buff+1
mov c,m
mvi b,0
inx h
dad b
mvi m,'$'
lxi d,con$buff+2
call prnt$messg
mvi c,rsetdsk
call bdos
ret
```

```

reset$dsksys: cpi 'R'
jnz save$char$cnt
lxi d,msg2
call prnt$messg
mvi c,rsetdisk
call bdos
call pip$scr$lf
pop h
jmp pip$prompt
save$char$cnt: lhld con$buff+1
shld char$cnt
ret
prnt$messg: mvi c,pmessg
call bdos
ret
msg1: db cr,lf,'PIP 1.5 with Reset disks and Quick
Repeat',cr,lf,'$'
msg2: db cr,lf,'Resetting all disks to R/W','$'
msg3: db cr,lf,'Repeating',cr,lf,'$'
char$cnt: dw 0
org pip$patch
jmp added
end

```

69 Church Lane
East Finchley
London N2 0TH

Dear Sir,

I personally have had no real contact with the (in)famous CP/M, save a few short sessions with a Research Machines 380Z at High School. I was then quite bewildered by the amazingly unfriendly user interface/front end. But that was years ago and many (well, six or seven) microcomputers ago.

My experience with disk drives is minimal, to say the least, but at last I have to admit that the dreaded cassette tape has well and truly got the better of me.

Even though at present I only have an Amstrad CPC-64 with a recently purchased disk drive system, the difference is quite incredible, to say the least! No more reading the instruction manual three times while waiting for the latest mega-zap to load. More to the point, I can now use my Amstrad for *serious* business use – only in my dreams before!

To come to the point: having the largest (potentially, anyway) forum of tried and trusted programs at my disposal doesn't seem to help me actually get to grips with CP/M. Maybe I'm getting old, but I still find myself feeling that the potential in CP/M evades me.

So I turn to you and the CP/M User Group for salvation. I must be sure of what I am buying, in that it must do what it is supposed to do without my losing my sanity getting it to work. But if this software is free, I can rest assured that my ability (or, rather, lack of it!) will not cause me to waste hard earned cash.

CP/M software is not cheap – as you well know: a ‘cheap’ word processor can cost well over £150. If I had this kind of money, I would have probably bought a much more expensive system.

I would therefore appreciate any advice you can give me in this respect, to a ‘youngster’ feeling his way around new ground. Lastly, if you could let me have a list of recommended programs to get me started, and maybe a good book or two!

Yours bewilderingly!!

R Finch

Ed: It is very hard to recommend programs for beginners in CP/M. The old games in BASIC are a bit bewhiskered now and a great deal of the library is for educated hackers only. One of the Adventures would be a good idea to start with. The BDS C adventure will run happily even on the original Amstrad machine. The new Amstrad 6128 will run anything, particularly if you have the second disk. I would be really pleased if there were a few more contributions of software in the library that were designed to appeal to the new user. There is a shortage of this sort of thing. I would suggest that such things as Small C, PPC Pascal, UKM7, Othello (the Fortran version), the Z80 assembler, or the disc utility DUU.COM are useful for anyone. However, as there are over 250 SIG/M discs alone, there are plenty of things out there to be discovered. The best suggestion I can give is to look through the library catalogue and try things out. Even if you make a mistake you lose very little. Let us know of any nice discoveries.

6, Liskeard Drive,
Bramhall,
Stockport,
Cheshire. SK7 2JA

Dear Andrew,

After receiving several volumes of software from the library, I discovered a potentially disastrous bug which seems to be present in all versions of the USQ (UNQUEUE) utility from the Sig/M library. This utility uncompresses those ASCII files on Sig/M Volumes which have been ‘SQUEEZED’ to save space, and a version of this USQ is included now on most Sig/M volumes.

The ‘bug’ is that UNSQUEEZE builds an FCB for file access at memory locations 50H to 6FH instead of the correct CP/M default FCB locations of 5CH to 7BH.

CP/M does not normally use the locations 50H to 5BH, and the manuals state that this area is reserved, but many BIOS implementations make use of these spaces as scratch areas. Running the supplied versions of UNSQUEEZE on such a machine will produce some rather strange effects.

I do not have a copy of the source file, so cannot effect corrections to the problem, and the version of USQ supplied with the Sig/M volumes seems to be slightly different on each volume, so I cannot suggest a universal ‘patch’ for the problem. However if USQ is run through one of the Disassemblers now widely available, the areas which need to be changed are fairly obvious.

The SQUEEZE utility which compresses ASCII files seems to be free of this problem, as is the TYPE utility which uncompresses the file and displays it to the console.

Yours sincerely,

Ray Halls

Ed: there is a rather old source version of the UNSQUEEZE program in the C user library. It may be a good idea to have a corrected version of USQ in the UK library. The USQ, however, seems to get hacked quite a lot by those who are interested in such esoteric things as huffmanization and like to tinker with the algorithm to increase its efficiency, hence the plurality of versions.

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Middx EN1 3NQ

Dear Andrew,

I note that Dick Sargeant was bewailing the loss of "s100 Microsystems in the February issue of !"£▲±◇←μ☆\$(+;)%&'[?] Journal (well the title *has* become a bit of a mouthful since the learned brethren of MSDOS returned to the fold).

Dick, and other s100 afficianados, may be to know that since Ziff-Davies ceased publication of *Microsystems* in December Sol Libes and Dave Hardy have switched their columns to a magazine called *Micro Cornucopia* which has, in the absence of interest elsewhere, taken up support of the s100 bus.

This magazine, which I could wax lyrical about, started off in 1981 supporting the Big-Board-1 single-board computer and has since added the Kaypro, Xerox-820, Slicer and a few other CP/M SBC's to its stable. With regular columns on Pascal, Forth, C, SBasic and CPM86 as well as the aforementioned equipment and more, it's just the job for getting all those sort of things that the glossy magazines leave out; the editorial flavour is similar to our own excellent publication (no more digs at the title) so one gets a good laugh among the technical nitty gritty. Its said to be very similar to "Dr. Dobbs" in their early days.

The catch is that (i) it's an American magazine, (ii) it's only available by subscription and (iii) they won't send sample copies for you to see if you want to order it. On the other hand it's a commercial magazine so one can phone (or write) just quoting a VISA card number for subscriptions (and/or any of the goodies that they sell at fair prices). Current subscription is \$30 US per year for which one gets six issues (about 80 A4-size pages per issue); this includes air mail postage to Britain.

Micro Cornucopia, known as 'Micro-C' among its lovers, are at PO Box 223, Bend, Oregon 97709, USA; 'phone (503) 382 8048. No, they didn't pay or promise me anything to write this; I'd just like to share a good thing among the rest of the gang.

Richard Limebear

Ed: Would you wax lyrical about CPMSDOSUGUK to them without us paying you or promising anything (or do I have to send the East Anglian mob round)? It is always refreshing to find a magazine that does not drivel on about "leading-edge mainstream compatibility functionality" and such rubbish (this seems to be American for "slavishly following the design of a computer designed in 1981"). Micro-Cornucopia is always a good read and to be heartily recommended.

Microft Technology Ltd
The Old Powerhouse
Kew Gardens Station
Surrey TW9 3PS

Dear Editor,

I read with interest the article on Disk compatibility in the Nov 84 Journal.

I use an IBM PC. At the moment I use an RS232 link between two computers to copy data from PCDOS format to CP/M 86 format disks.

Is there a utility that can read PCDOS format and write to CP/M 86 format?

Yours sincerely

R Jones

Ed: Yes, it is called Concurrent DOS!. Seriously, if you cannot run Concurrent then why not use Derek Fordred's utility that he published in the newsletter?

8 Olive Road
Stocksbridge
Sheffield S30 5LP

Dear Andrew,

I would like to add to the enthusiasm expressed recently for Richard Russell's MUSIC program, which I have found to be both educational and entertaining. I hope however that Richard and Debugger's comments regarding the use of the I register do not discourage IM2 users (Bigboard, Zboard, MXboards etc) from experimenting with MUSIC, since there are many ways round this problem. A brief

examination of Richard's code shows that only during the PLAY routine is the I register used, so if interrupts are prevented (at source, not necessarily disabled, since many Bios's suspend interrupts during disk operations, and re-enable them on return, thus a LOAD or SAVE will re-enable interrupts), then there is no reason why MUSIC shouldn't run. Many boards employ only 2 sources of maskable interrupts – the keyboard (easily prevented by not touching it during PLAY!) and a CTC used for disk timeout. Here the relevant CTC register bit 7 can be reset, preferably after timeout, to prevent the drive motor noise masking your music. The I operator can be used at the very first and last line of music input to call simple interrupt prevent/restore patches stored in high RAM, eg:

```

10 REM Use ! 36864 at start of music, ! 36880 at end.
20 P%=&9000
30 CTC3=&1B
40 Iopt 3; no forward refs, so 1 pass
50 .ints off
60 LD A,&47:OUT (CTC3),A:LD A,100:OUT (CTC3),A:RET; ctc3
b7 low
70 NOP:NOP:NOP:NOP:NOP:NOP:NOP:; Pad out to a round address
80 .ints on
90 LD A,&FF:LD I,A:LD A,&C7:OUT (CTC3),A:LD A,100:OUT
(CTC3),A
100 RET; CTC3 bit re-enables ints
110 ]

```

Remember to restore the I register (usually &FF) and not to touch the keyboard until the prompt reappears. Since this is a crude solution, it would be nice if Richard would rewrite PLAY to avoid using the I register. This would be ideal for IM2 users.

In my complete ignorance of musical theory, I discovered the following, which caused some frustration at first:

If a note is played sharp or flat, then should that note occur again within the same bar, subsequent ones are also played sharp or flat (*this is the standard musical convention. Ed*). A symbol like a blobbed 7 means silence for half a beat, a curly bracket is silence for one beat, a rectangular block *above* the line is 2, hanging below it is a 4 beat silence.

MUSIC, like any other program, will play exactly what you tell it, but never has 'garbage in – garbage out' been so *painful*!

Many thanks to Richard for an excellent package.

Cheers for now
Phil Green

P.S. Ace rag – keep it up.

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Grosvenor House
4-7 Station Road
Sunbury-on-Thames

Dear Sirs,

Datasolve is to introduce a modified administrative procedure to control further, and to ease, our purchasing function. This procedure will be effective from 1 June 1985.

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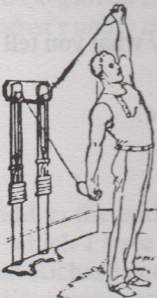
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Thanking you for your co-operation.

Yours faithfully
L F Browne
Financial Accountant

Note from Software Librarian:

I have made "all my people in charge of the administration of our sales" aware of the procedure. Unfortunately I don't know how to spell her reply!



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London N11.

Dear Derek,

Thank you for sending me US Volume 81. I have had problems trying to run the editor EDITM.COM on this disk – it crashes almost immediately on loading.

Fortunately, the source is supplied on this Volume, and I eventually traced the problem to line 333 in the source file:

```
CALL      BRKCHK
```

This call carries out direct calls to the BIOS, and assumes that all registers are left unchanged by the call. Unfortunately, this is not true for my machine, so the program falls over! The cure is to add register save and restore instructions before and after this line:

```
PUSH      H
PUSH      D
PUSH      B
CALL      BRKCHK
POP        B
POP        D
POP        H
.....
```

Chris Maxfield.

If you have had to patch a library program to make it work on your machine, send the details to the Editor so that other members can benefit from your experience. If the changes needed are extensive, why not submit the file to the Librarian for issue as part of a UK Library volume?

Wanted – Information

I would like information on patching CP/M for things such as backspace/delete correction. Also tips on using BDOS system calls.

S.J.Pegrum

Ed: The patches you require were published in Journal Volume 1 Number 6, dated May 1982. Unfortunately, this issue has been out of print for some time. I think it might be worth reprinting some of the material from the earlier Journals for the benefit of members who have joined the Group recently.

From an Amstrad user

I am a complete beginner to CP/M and have only used it in connection with the DDI disc unit (as supplied). I like to play all manner of games and to learn from my computer and would like to improve my very small understanding of programming techniques. From what I am led to believe, CP/M can help me in my goals and I would like to see what CP/M has to offer. I am not unknowledgeable enough to believe that I can fully implement CP/M on the Amstrad, but we all have to start somewhere

Rue du Bois de Linthout, 8
B 1200 Brussels

Dear Sir,

First of all I thank you for the recent sending of CP/M volumes. As I am now the proud owner of an IBM-like PC (IBM-me-too . . .) I would like to know if the CPMSDOSUGUK (must be some old tribal name) intend to provide some MSDOS volume of public domain software (PC-BLEUE and so).

I understand quite well that it takes much money to have all these volumes so perhaps by asking interested members a contribution for this service you'll be able to match the problem.

I personally think that there are far more interesting things under MSDOS public domain for there were much more recent software development (not the 1234e version of MODEM) plus a standard hardware (graphic) environment.

I hope to read news about that in CPMSDOSUGUK in the near future. (Thanks for the last catalogues volume, it was a great job)

Yours faithfully
Thierry Wautelet

Ed: Yes, the publication of a catalogue of MSDOS public domain software is 'on the stocks', but we are conscious that our list has many gaps – so, contributions, please, from members who may know of software that we don't. Naturally, we cannot agree that the software we have seen so far is in any way superior!

28 Trelawn Road
Brixton SW2 1DJ
☎ 01-737-2794

Dear CP/M User Group (UK),

Regarding the sig/M Volume 11, 550 point Adventure – as you may know, the Software Librarian does not have the correct equipment to produce Apple][format discs, and hence passes them on to me to be converted from Binch SSSD IBM format (241K per disc) to Apple][format (126K per disc).

Unfortunately this sometimes means that certain files are too large to convert without being split up, or alternatively that the software required more space on the discs to run successfully than is available.

Although the files from Volume 11 fit onto an Apple Disc O.K., I Have been unsuccessful myself in getting the program to run, as it appears it is written in compiled FORTRAN and expects all of its files on one drive (the default one). As the total size of all the required files is about 20K greater than is available on the disc, this causes a problem!

I have looked through the .COM file and found what looks like a FCB about ¾ of the way through it, but this does not seem to have room in it for the drive specifier.

Possibly if you have a greater knowledge of how compiled FORTRAN programs are made up you may have more success at patching it than I.

I wish you the best of luck, and ask that if you get it working that you contact me and let me know how you did it, so I may create an Apple compatible version for any members who would like a copy.

I have played it on my BigBoard system (which uses Binch discs) and I have found it to be a challenging extension to the original adventure. My best score to date is 389 (I can still not find a way out of the ice caverns).

Yours Sincerely
David J P Bodger

Ed: Re your problem with big files. Easy. First, separate the sheep from the goats – that is, have the .COM file on one disk and all data files on another, plus REDO.COM. Boot up the .COM disk by typing:

`adventure ^Y` (or some other illegal command)

CP/M will then boot up ADVENTURE happily and stop when it meets the illegal character, spitting it out with a ?. Whereupon, replace the .COM disk with the data disk and type REDO. This gets back into ADVENTURE, which is still languishing in RAM, and away it goes.

HSC CO16

Congratulations on the excellence of your magazine. It is always a good day when the copy arrives.

I would like to refer to the article on this subject in the Group magazine of February 1985.

I have read about this board sometime ago in BYTE – and have been tempted by the idea – but three things kept me from venturing from the 16-bit way by getting this board. They were in my ineptitude as far as soldering irons etc are concerned, the lack of any reliable reports about the performance and, what to me was most important, was the location of the supplier.

Having read the February article I was assured as far as the performance of the board was concerned. I have also seen an advert in one of the computer magazines by the UK supplier of this piece of hardware. This supplier is:

Systems Science
6-7 West Smithfield
London EC1A 9JX

After a telephone chat I have arranged for the purchase of the board and the installation by the supplier in my home, as lugging heavy computers is beyond me now.

The Board, HSC CO-1686, has been installed. I have not got any programs to run on it yet but the Supercalc 2 is on order. But as present I am enjoying yet another

RAM disk. My computer, TRS Model 4, has already a 63K RAM disk and the new board gave me yet another 250K RAM disk. I load WS or dBaseII and .CMD files in one of them and data files and enjoy terrific speedup of performance.

The goodies supplied by System Science are:

8086 Family

Model 1	£675.00
Model 3 (Model 1 with case, power supply and install)	£865.00
Model 2 (Model 1, real time clock and provision for 8087)	£795.00
Model 4 (Model 2 with case, power supply and install)	£985.00

68000 family

Model 1	£850.00
Model 3 (see above for 8086)	£975.00
Model 2 (see above but NS16081 – not 8087)	£950.00
Model 4 (see above for 8086)	£1,095.00

Memory expansion

Add-on 256K RAM	£445.00
Add-on 512K RAM	£695.00
8087	£225.00
NS16081	£250.00

There are also other bits and peices like RAM discs, additional interfaces permitting the boards to be moved between computers. All goods are supplied with 90 days' warranty and all prices are exclusive of VAT.

There is really nothing that I can add to the excellent article on this subject in February 1985. It may however be of interest to any user of the TRS Model 4 contemplating purchase of this board that my supplier selected the port 60H and everything works perfectly.

Anon

19, Mellor Drive,
Sutton Coldfield
West Midlands B74 4TL
☎ 021-353 3551

Dear Andrew

I renewed my CPM User Group membership the other day and in doing so I asked Derek Fordred if he could offer any advice about running dBase version 2.43 on a Superbrain – mine has 2 x 160K discs. I have 2.41 running but ^N, for a new line insert in MODIFY COMMAND, does not work. My dealer has provided me with a system disc from Software Ltd, before that CNTRL w didn't work either.

On the bottom of the subscription invoice D.F. had written "Try a letter to Andrew", I hope you are the Andrew he meant.

Anyway I wonder if you can help: I am more or less forced to use the **thing**, without ^N and without 2.43. I understand there are a few good things in 2.43 and I certainly miss being able to insert a new line – it means coming out of dBase and using another editor.

I would be grateful for your advice.

Yours sincerely
J B Drake

Ed: Can anyone help?

8 Greenwood Close
Petts Wood
Orpington
Kent

Dear Mr. Fordred,

I would like to contact any members who use the Iotec computer, as I am trying to locate circuit diagrams and information relating to this machine.

G.P.D. Hatch

Ed: Mr. G. Baker of SITEC, University Road, Salford, has also written and would like to contact other Iotec or Wren members.

8a Tubs Hill Parade,
London Road,
Sevenoaks,
Kent TN13 1DH.

Dear Mr Fordred,

I am writing concerning the difficulties in copying large files on the Amstrad which some people with single drives appear to be having.

As I mentioned to you, the method I used to overcome this was to copy the files to tape, and then from tape to a system format disk. The program I used is part of a larger program, but the basic principle is very simple. The following program, CPMCOPY, written for the Amstrad OS and AMSDOS will set up a resident system extension called 'i c o p y' to copy files from disk to tape and from tape to disk. It ignores the CP/M eof character, 01A, and continues to copy until it reaches the hard eof, which means that text files sometimes get 'garbage' tagged on the end of them. If only text files are being copied, then two instructions marked with an asterisk in the source file which check for a CP/M eof character can be deleted.

The program will assemble with the Maxam assembler, but the source is easily changed for other assemblers. No ORG address has been supplied in the source. The program does not support wildcards. The object code is assembled to run at 0405E, so space will have to be cleared for it, i.e. memory &405D.

Unfortunately this program cannot really be written to run under CPM, as it uses Amstrad OS calls to write files to tape.

I have also included a short menu-driven Amstrad BASIC program called COPY.BAS which shows how to use the routine from BASIC.

If anyone has any further problems please do not hesitate to contact me and I shall try to help.

Yours sincerely
Brian Johnstone

```
=====
;= NAME CPMCOPY
;=
;= JOB TO COPY FILES FROM DISK TO TAPE TO DISK
=====
;
;INPUT  FILENAME(S) SUPPLIED AS PARAMETER(S) TO RSX COMMAND
;
;OUTPUT NONE
;
;REGS   ALL USED
;
;STACK  4 BYTES, PLUS O/S USE
;
;SFTWRE NONE
;
;HRDWRE CPC464, CPC664, CPC6128
;
;LENGTH ???? BYTES
;
;CYCLES NOT GIVEN
;
;ACTION CALL START TO SET UP RSX.
;
;      THEN-;
;      ICOPY
;      PRINTS HELP PAGE
;
;      ICOPY <FILE>
;      COPIES <FILE> FROM I/P STREAM TO O/P STREAM USING THE SAME
;      FILENAME
;
;      ICOPY <FILE> <FILE>
;      COPIES <FILE> FROM I/P STREAM TO O/P STREAM
;                                     USING SECOND <FILE>
;      FOR O/P FILENAME.
;
=====
;
;UPDATE V01.      JULY 1985      BEA JOHNSTONE
;
```



```

INC HL ;
LD E,(HL) ;ADDR OF FILENAME
INC HL ;
LD D,(HL) ;
EX DE,HL ;MOVE TO HL AGAIN
COPY LD DE,BUFER1 ;INPUT BUFFER
CALL OPENIN ;OPEN INPUT FILE
POP BC ;
POP HL ;RETRIEVE PUSHED ADDR AND LEN OF OUTPUT
FILE JP NC,ERROR ;BUT IF AN ERROR OCCURED OPENING INPUT
FILE EXIT. ;
LD DE,BUFER2 ;OUTPUT BUFFER
CALL OPENOP ;OPEN OUTPUT FILE
JP NC,ERROR1 ;IF ERROR THEN EXIT, CLOSEING INPUT FILE.
COPYLP CALL INKEY ;GET KEY INPUT
CP #FC ;ESCAPE KEY?
JP Z,ERROR3 ;YUP, EXIT.
CALL RETKEY ;OTHERWISE RETURN THE VALUE TO THE
KEYBOARD
CALL RDCHAR ;READ CHAR FROM INPUT STREAM
JR NC,EOF ;EOF?
COPY1 CALL WRCHAR ;AND WRITE IT TO THE OUTPUT STREAM
JR COPYLP ;
EOF CP #1A ;* CPM EOF? *
JR Z,COPY1 ;* YES, IGNORE *
CALL SHUTIN ;CLOSE INPUT AND OUTPUT FILES
CALL SHUTOP ;
LD HL,OKMES ;
MESPT LD A,(HL) ;PRINT MESSAGE POINTED TO BY (HL)
AND A ;
RET Z ;FINISHED
CALL PRTCHR
INC HL
JR MESPT
ERROR LD HL,INMES
JR MESPT
ERROR1 CALL ABORTI ;ABORT INPUT FILE
LD HL,OUTMES
JR MESPT
ERROR2 LD HL,PARMES
JR MESPT
ERROR3 CALL ABORTI ;ABORT INPUT AND OUTPUT FILES
CALL ABORTO
LD HL,ESCMES
JR MESPT
HELP LD HL,HLPMES ;HELP SCREEN
JR MESPT
COMTAB DEFW NAMTAB
JP GETPAR
NAMTAB DEFM "COP" ;COMMAND NAME
DEFB "Y"+128
DEFB 0
OSBUF DEFS 4 ;FOR O/S
OKMES DEFM "FILE COPIED SUCCESSFULLY"
DEFB 13,10,0

```

```

INMES  DEFM "FAILED TO OPEN INPUT FILE"
        DEFB 7,13,10,0
OUTMES  DEFM "FAILED TO OPEN OUTPUT FILE"
        DEFB 7,13,10,0
PARMES  DEFM "PARAMETER ERROR"
        DEFB 7,13,10,0
ESCMES  DEFM "ESCAPE!"
        DEFB 7,13,10,0
HLPMES  DEFB 12,10,10
        DEFM "SET INPUT AND OUTPUT STREAMS WITH THE"
        DEFB 13,10
        DEFM "TAPE.IN, TAPE.OUT, DISC.IN & DISC.OUT"
        DEFB 13,10
        DEFM "RSX COMMANDS."
        DEFB 10,10,13
        DEFM "ICOPY BY ITSELF PRINTS THIS PAGE."
        DEFB 10,10,13
        DEFM "FORMAT IS -          DEFB 10,13
        DEFM "ICOPY <INPUTFILE> [OUTPUTFILE]"
        DEFB 10,10,13
        DEFB "EXAMPLE."
        DEFB 10,10,13
        DEFM "ITAPE.OUT          TAPE TO OUTPUT STREAM"
        DEFB 10,13
        DEFM "IDISC.IN          DISC TO INPUT STREAM"
        DEFB 10,13
        DEFM "AS="FORTH.ASM"      FILE TO COPY"
        DEFB 10,13
        DEFM "BS="FORTH.COP"      OUTPUT FILENAME"
        DEFB 10,13
        DEFM "ICOPY,AS,BS        AND COPY"
        DEFB 10,10,13
        DEFM "THE OUTPUT FILENAME IS OPTIONAL AND IF"
        DEFB 10,13
        DEFM "OMITTED THE OUTPUT FILE IS CALLED THE"
        DEFB 10,13
        DEFM "SAME AS THE INPUT FILE"
        DEFB 10,10,13,0
BUFER1  DEFS 2049                ;INPUT FILE BUFFER
BUFER2  DEFS 2049                ;OUTPUT FILE BUFFER
END

```

```

10 IDISC
20 MEMORY &405D
30 LOAD"CPMCOPY.BIN",&405E
40 CALL &405E
50 ON BREAK GOSUB 6000
55 ON ERROR GOTO 6020
60 TRUE=-1
70 WHILE TRUE
80 MODE 1
90 PRINT:PRINT:PRINT"          DISC TO TAPE TO DISC"
100 PRINT"_____ "
110 PRINT:PRINT:PRINT"          MENU"
120 PRINT:PRINT" TAPE TO DISC          1"

```

```

130 PRINT" DISC TO TAPE 2"
140 PRINT" DISC TO DISC 3"
150 PRINT" TAPE TO TAPE 4"
160 PRINT" EXIT 5"
170 A$=INKEY$:IF A$="" THEN 170
180 A=ASC(A$)-48
190 IF A<1 OR A>5 THEN 170
200 IF A=5 THEN GOSUB 6000
210 ON A GOSUB 1000,2000,3000,4000
220 PRINT"Press a key to continue"
230 a$=INKEY$:IF a$="" THEN 230
240 WEND
1000 ITAPE.IN:IDISC.OUT
1010 GOSUB 5000
1020 IF FLAG THEN ICOPY,inputfile$ ELSE ICOPY,inputfile$,outputfile$
1030 RETURN
2000 IDISC.IN:ITAPE.OUT
2010 GOSUB 5000
2020 IF FLAG THEN ICOPY,inputfile$ ELSE ICOPY,inputfile$,outputfile$
2030 RETURN
3000 ITAPE
3010 GOSUB 5000
3020 IF FLAG THEN ICOPY,inputfile$ ELSE ICOPY,inputfile$,outputfile$
3030 RETURN
4000 IDISC
4010 GOSUB 5000
4020 IF FLAG THEN ICOPY,inputfile$ ELSE ICOPY,inputfile$,outputfile$
4030 RETURN
5000 PRINT:INPUT"WHAT IS THE INPUT FILE NAME";INPUTFILES
5010 IF LEN(INPUTFILES)>16 THEN 5000
5020 PRINT:INPUT"WHAT IS THE OUTPUT FILE NAME";OUTPUTFILES
5030 IF LEN(OUTPUTFILES)>16 THEN 5020
5040 IF LEN(OUTPUTFILES)=0 THEN FLAG=-1 ELSE FLAG=0
5050 RETURN
6000 DELETE 10-50
6010 ON BREAK STOP
6020 END

```

TO THE CONTINENT.

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Arrival Berlin 8.28 p.m.

London—Dresden in 28 hours.

Arrival Dresden 12.31 a.m. etc.

ZEELAND STEAMSHIP COMPANY, FLUSHING.

Epsilon Consultancy Limited
Wayland's Croft,
Stonesfield,
Oxford OX7 2QA.

Oxford Local User Group

Dear Andrew

At the atypical insistence of the Annual General Meeting of the CP/MUG, I instigated a Local User Group to be based in Oxford. According to James or Jan Morris, the river-ringed locale creates a miasma of lethargy in the immediate vicinity, and perhaps for that reason members from the City itself numbered only three, whereas from the hinterlands as far East as Aylesbury and as far West as Chipping Camden came the response. The Treasurer was elected and on being offered a contribution from the parent body, resigned in shock. The Chairman is that well-known contributor, Dick Sergeant; we have a joint secretary, Delta Clarke/Tracey Thomas.

Occupying the strictly non-combatant role of President, I urge South-East Midlanders to join in numbers such as will cause the annual subscription to the local Oxford group to be very low. Our last meeting was held in comfort and convenience at Hertford College.

Yours sincerely,

Joyce Clarke

Parkdale
Bounds Green Road
London N11 2HB

Dear Andrew,

Derek Fordred asked me to write to you with some supplementary information about EDITM from the US group Vol 81.

1. There is a further direct call to BIOS 'CONIN' at line 395 in the .ASM file. While on the two machines I have tried, the absence of PUSH's and POP's here does not seem to matter. For complete safety the registers should be saved here too.

2. The program expects rubout to be character 7FH. On my own machine backspace is used (08H).

To accept this the two 7FH's in the RUBOUT routine at lines 420 and 423 in the ASM file should be changed to 08H.

Yours sincerely

Chris Maxfield

Selective PIPping

Dear Sir,

We use WordStar on our Caltext M3 (twin 5.25 inch drives, 64K ram, CPM 2.2).

On the disk on the A drive we have, besides the main ws program and its overlays, a number of precedents, which might range from "I desire that my body may be cremated" (? but not yet) to a complete business lease or franchise agreement 30 A4 pages long.

We reserve the first four lines of each file, telling us what the precedent is, who created it, where he got it from and when he created it. As I am sure you would expect, we start those lines with the WordStar '..' command, so that they are ignored at print time.

What we should like to do (but can't) is to use PIP's [Q string ^Z] argument to produce an automatic index of our precedents, by ending the last "double-dotted" line with the relevant string.

What we hoped to do was to type `PIP LST:=*.txt[Q...^Z]` all our precedents having the .txt extension and the 3 dots being our string) and then sit back and wait while PIP ran through the files, PIPped off the comment lines and made us an index while we made coffee.

The bad news is that it simply doesn't work. (The good news is, I suppose, is that it works to the extent that it gives us one set of comment lines and then stops, which is better than what happens if you input

`PIP LST:=*.*` etc, which merely throws up the error message:

"CANNOT READ" *.*

Why not? it will do it perfectly well when it is PIPping all files from one disk to another. Does PIP bear some grudge against solicitors, even though our conveyancing monopoly has gone?). We have tried using the appropriate number of ???'s as a wildcard but PIP doesn't really want to know (we have also tried SUBMIT and XSUB but they don't seem interested, either).

Not many people are concerned with Solicitors' precedents but plenty of people might be interested in what ought to be a simple procedure for producing an automatic index for all the files on a disk and I wonder if there is anyone in the hierarchy who could perhaps explain in words of one syllable what we ought to do.

There is a lightness of touch in your magazine which makes it delightful reading, even to this inexpert CPM-basher, who really does not understand more than about 2% but is instructed by what he does understand and entertained by most of what he reads.

Yours sincerely

W.A.L Knowles

Ed: I'm sorry, but PIP just will not do this. As it seems such a reasonable thing to want to do, I have thrown together a program to do the job, and a few other jobs that other readers might be wanting to do. I have printed it in the Journal because I am quite often asked how to handle ambiguous file names passed to C programs (argv and argc do not usually return all the files corresponding to an ambiguous file reference).

I didn't have time to add a mechanism whereby the string search could be done within limits, or to introduce more complex searches so I hope someone else will improve the program. I have given the program to Derek to put into the library and have compiled versions to run under CP/M-80, CP/M-86, Concurrent DOS and MSDOS/PCDOS. If this does not do the trick for you, please let me know and I will try again. If anyone else has a good idea for a program, please write in and tell us. Debugger tells me he is working on a program for synthesising Mills-and-Boon novels, but the screen keeps steaming over during the most purple passages.

☆ Multiple File Find Utility ☆

This program is offered to the public domain in the hope that someone will take the time to improve it.

Note:

1. It accepts wildcard lists.
2. It also runs under MSDOS

Documentation

To find all occurrences of lines beginning with .. in a series of files just type:

- MFFU afn

where afn is an ambiguous or unambiguous file reference.

If you wish to do more than one series, type:

MFFU afn afn afn (...etc)

To find strings other than .. type the string between double parentheses in the command line, eg:

MFFU *.FOO *.LET ";"

will find all occurrences of lines beginning with a semicolon in all the files on disc of filetype FOO or LET.

To find all occurrences of a particular phrase in a number of files type a **-W** in the command line

MFFU *.C "switch" -W

would find every line in which the word 'switch' occurred in all .C files on disc.

If you want the name of the file appended at the start of each line then type **-F** in the command line. If you wish every line shown then type **-I** in the command line.

-B specifies that the program searches only the beginning of the line.

Output files are specified by **>ufn**, (where ufn stands for an unambiguous file reference).

Note that **C** does not allow strings containing spaces to be passed in the command line unless one hacks the run-time library about.

To circumvent this, we adopted the following convention:

To insert a space in the string, use the '_' character.

`"this_is_an_example_of_a_string"`.

Examples:

MFFU ONE.FIL

types all lines starting with '...' in one.fil out on the screen.

MFFU ANOTHER.LET >LST:

prints all lines starting with '...' to the printer.

MFFU *.LET >INDEX

finds all lines starting with '...' in all the .LET files on the current disc and writes them out to the file INDEX

MFFU p*.asm grot.doc t.?l? >day3.fil

creates a file DAY3.FIL that contains all lines in the specified files that begin with '...'. The files are all the .ASM files, GROT.DOC and all the files with a both a filename T and a filetype with a middle letter L.

MFFU *.let -w "this_is_highly_controversial"

Types all occurrences of the string "this is highly controversial" in all the files of filetype .LET

MFFU p*.asm grot.doc t.?l? >day3.fil -f

as above, but starts each line in DAY3.FIL with the filename of the file from whence the line came.

MFFU A:*.CB:*.C "RETURN()" >TEMP -W

finds all occurrences of "return()" in all the .C files on both drive A: and B:, writing them into the file TEMP.

MFFU *.1 *.2 *.3 >BRONTO.FIL -i

joins (concatenates) all the specified files into the file BRONTO.FIL.

Switches

-w Within

Searches for the specified string within each line.

-f Filename

Start each line with the name of its source file.

-i Indiscriminate

Do every line whether it matches or not.

-b Begin

... search for the match from the line-beginning only.

Note:

Currently, the searches are simple, and ignore case. If you want something better, key in the stuff from 'Software Tools'. If you improve the program, you are morally obliged to give it to the public domain.

Compiled with Astec C.

Andrew Clarke

MML: Sept 1st 1985

```
*/— Included files —*/
```

```
#include <D:STDIO.H>
#include <D:CTYPE.H>
```

```
/*— Logical Values —*/
```

```
#define FALSE 0000
#define TRUE -1
```

```
/*— machine addresses —*/
```

```
#define BASE 0X0000
```

```
/*— System calls — */
```

```
#define SEARCH_FIRST 17
#define SEARCH_NEXT 18
#define SET_DMA 26
#define GET_DRIVE 25
#define DOSSFIRST 0x11
#define DOSSNEXT 0x12
#define DOSSETDMA 0x1A
#define DOSGETDRIVE 0x19
```

```
/*— Equates —*/
```

```
#define LINELENGTH 400
```

```
/*— Structures —*/
```

```
struct next_filename /* a linked list of filenames in
                    ASCII format */
{
    char filename[15]; /* a filename */
    char *next_link; /* pointer to next */
} root, *fname;
```

```
/*— Variables —*/
```

```
int unit; /* the drive 0-n referenced by the
          ambiguous file (AFN) */
int file_count = 0; /* the number of files found so far */
```

```
/*— Functions —*/
```

```
char *the_next_file() /* this function returns a pointer */
```

```

/*--- Strings ---*/
char match_string[80]="..";
/* the default string to match with */

/*--- Toggles ---*/
unsigned char begin_match_wanted = TRUE;
unsigned char within_match_wanted = FALSE;
unsigned char indiscriminate = FALSE;
unsigned char file_name_wanted = FALSE;

/*-----*/
main (argc, argv) /* it all starts here */
int argc;
char *argv ;

{
int arg_count;
int index;
char the_switch;

fname = &root; /* put in the first link */
for (arg_count=1; arg_count <= argc ;arg_count++)
switch(*argv[arg_count])
/* read in the command line */
{
case '"': get_match(argv[arg_count], '"'); break;
case '[': /* is he specifying a match? */
case '-':
index=1;
while (the_switch=*(argv[arg_count]+index++))
if (the_switch != "]" ) get_switch(the_switch);
break; /* or a toggle */
default: unravel_afn(argv[arg_count]);
/* or is it just a filename */
}
fname=&root;

if (file_count) while (file_count--) process(the_next_file());
else printf ("Sorry, I couldn't find any files!");
}

/*-----*/
process(the_file)
char *the_file;
{
FILE *fp, *fopen();
char *fgets();
char string_to_match[LINELENGTH];

if ((fp = fopen(the_file,"r")) == NULL)
{
printf("Where on earth has %s gone?\n",the_file);
exit(0); /* will the impossible happen? */
}
while ((!feof(fp)) && !(ferror(fp)))
/* while not end and no error */

```

```

{
if (fgets(string_to_match, LINELENGTH, fp))
if (try_to_match (string_to_match))
{
if (file_name_wanted) printf("%s: ", the_file);
printf("%s", string_to_match);
}
}
fclose(fp);
}

/*-----*/
try_to_match(string_to_match)
/* with the match string. returns
true if matched, otherwise false */
char *string_to_match;

{
if (begin_match_wanted)
return (at_beginning(match_string, string_to_match));
if (within_match_wanted)
return (within(match_string, string_to_match));
if (indiscriminate)
return(TRUE);
}

/*-----*/
char *the_next_file() /* returns a pointer to the next
file and bumps the file structure
pointer */

{
fname=fname->next_link;
return(fname->filename);
}

/*-----*/
get_match(the_string, the_end_character)
/*copy the string using the delim
specified or the
end of string */
char *the_string;
char the_end_character;

{
register char *the_match;
the_match=match_string;
the_string++; /* bump over the delimiter */
while (*the_string && (*the_string != the_end_character))
{
if (*the_string == '_' ) *the_string = ' ';
*the_match++ = *the_string++;
}
*the_match='\0'; /* null terminate it */
}

```

```

/*-----*/
get_switch(the_code) /* get conditional switch */
char the_code;
{
    the_code=toupper(the_code);
    if (the_code == 'F') { file_name_wanted = TRUE; return(); }
    begin_match_wanted = FALSE; within_match_wanted = FALSE;
    indiscriminate = FALSE;
    switch (the_code)
    {
        case 'W': within_match_wanted = TRUE; break;
        case 'I': indiscriminate = TRUE; break;
        case 'B':
            default: begin_match_wanted = TRUE;
    }
}

#ifdef MSDOS
/*-----*/
unravel_afn(the_afn) /* unravel the ambiguous filename
                    and put it in the chain of
                    filenames */

char *the_afn;

{
    char *malloc (); /* it returns a pointer */
    register unsigned char dmapos;
                    /* the index into the directory
                    window */
    char fcb_address[35]; /* put the FCB here */
    char dosbuffer[80];

    fcbinit ( the_afn, fcb_address);
                    /* initialise our pattern */
    bdos (DOSSETDMA, dosbuffer, 0);
                    /* set the DMA */
    unit= (fcb_address[0] ? fcb_address[0]-1 : bdos
    (DOSGETDRIVE,0,0) ) ;
                    /* ascertain which drive we are
                    doing the search on */

                    /* now read in all the files */
    if (!(bdos (DOSSFIRST, fcb_address, 0)))
    do
    {
        file_count++; /* keep a tally of the number read
                    in */
        fname=(fname->next_link=malloc(sizeof(root)));
                    /* make the link */
        hackname (fname->filename, dosbuffer);
    }
    while (!( bdos (DOSSNEXT, fcb_address,0)));
    }
    else

```

```

/*-----*/
unravel_afn(the_afn) /* unravel the ambiguous filename
                      and put it in the chain
                      of filenames */

char *the_afn;

{
char *malloc ();      /* it returns a pointer */
register unsigned char dmapos;
                      /* the index into the directory
                      window */
char fcb_address[35]; /* put the FCB here */

fcbinit ( the_afn, fcb_address);
                      /* initialise our pattern */
bdos (SET_DMA, BASE+0x80);
                      /* ensure default DMA */
unit= (fcb_address[0] ? fcb_address[0]-1 : bdos
(GET_DRIVE, 0) ) ; /* ascertain which drive we are
                      doing the search on */

                      /* now read in all the files */
for (dmapos= bdos (SEARCH_FIRST, fcb_address); dmapos<4 ; )
{
file_count++;        /* keep a tally of the number read
                      in */
fname=(fname->next_link=malloc(sizeof(root)));
                      /* make the link */
hackname (fname->filename, (BASE + 0x80 + dmapos*32));
dmapos= bdos (SEARCH_NEXT, fcb_address);
}
}
endif

/*-----*/
hackname (destination, source)
                      /* make a string representing a file
                      name from a
                      directory FCB put it in
                      'destination' */
char *destination, *source;

{
int i, j=2;          /* insert the drive descriptor */
destination[0]= unit + 'A'; destination[1]=': ';
                      /* get the filename */
for (i = 1; ((i < 9) && (source[i] != ' ')); i++)
destination[j++] = source[i];
if (source[9] != ' ') destination[j++] = '.';
                      /* and the filetype */
for (i = 9; ((i < 12) && (source[i] != ' ')); i++)
destination[j++] = ( source[i] & 0X7F );
                      /* null-terminate it */
destination[j] = '\0';
}

```

```

/*-----*/
within(a_phrase, a_string)
    /* is the phrase within the string?
       returns false if not, otherwise
       returns pointing at the char after
       the phrase in the string */

char *a_phrase;
char *a_string;
{
    static unsigned char *pp;
    register unsigned char *ss;
    register unsigned char *ii;

    ii=pp=a_phrase;
    ss=a_string;

    while (*ss != '\0')
        if (isalpha(*ss) ? (!((*pp ^ *ss++) & 0x5f)) : (*pp == *
            ss++)) /* match upper or lower case */
        {
            for (ii = pp+1;
                (isalpha(*ii) ? (!((*ii ^ *ss) & 0x5f)) : ((*ii == *ss)
                    && *ii)) ;
                ii++, ss++);
            if (*ii == '\0') return (ss);
        }
    return (FALSE);
}

/*-----*/
at_beginning(a_phrase, a_string)
    /* is the phrase at the beginning of
       the string? returns false if not,
       otherwise returns pointing at the
       char after the phrase in the string */
    /

char *a_phrase;
char *a_string;
{
    register unsigned char *pp;
    register unsigned char *ss;

    pp=a_phrase;
    ss=a_string;

    while (isalpha(*ss) ? (!((*pp ^ *ss) & 0x5f)) : (*pp == *
        ss)) {pp++; ss++;} /* match upper or lower case */
    if (*pp) return(FALSE); else return(ss);
}

```

6 Kennerleigh Grove
Leeds LS15 8NQ

Dear Andrew,

Could you please place the following request for help in the next magazine? My problem is that I have a Z80-based machine, the Iotec Iona, on which I am investigating the possibility of installing a hard disk drive. The drive which I shall use will probably be a 5.25" Teac slim-line. I know that hard disk drives need a special controller of their own, and that these cards can be bought, for a price, but I am also informed that another card is required, called a SASI card. Each of these has to be configured to the individual type of machine, and it is the details of this that I am short of, as well as the software to link the drive and the CP/M 2.2.

The machine uses the I/O ports to access the disk drives, and apart from using two banks, one for the screen I/O and associated monitor routines, and one for the CP/M, it seems to be a fairly standard type of Z80 machine.

If anyone with any experience of this type of problem could help me by pointing me in the right direction, I would be very grateful.

Also, I am told that to use CP/M+, one should have banked memory for best use as it is possible that it could run CP/M+? Does anyone know of an implementation for this machine? Alternatively, is it possible to get a basic CP/M+ to alter my existing BIOS to suit?

Any help with these questions would be appreciated.

Yours sincerely

Phillip Marsden

72 Mill Street

Tonyrefail

Porth

Mid-Glamorgan CF39 8AF

Dear Editor

As a just enrolled member, thanks for sending the catalogue and the November 1984 copy of the journal.

May I take this opportunity to tell you how impressed I am with the high standard of the publication.

Having wandered for some time through the byte wilderness, the sun has come from behind the clouds at last.

And I thought that CP/M freaks, if they existed, live on off-shore Islands! And now, meetings of the Fifth Kind.

Please tell me whether there exists a Group in Cardiff or South Wales and if so could you send me their address or telephone number.

In the meantime perhaps I may be allowed a question, as a relatively new starter with CP/M operating systems and in possession of a 64K Computer without

documentation vis-a-vis BIOS, BDOS etc. I am frankly at a loss as to how to sort out elementary things such as clearing the screen with a ZAP or even to position the cursor without having to resort to miles of CONTROL CHARACTERS.

Also not having a Dissassembler may well be an disadvantage, however I presume this can be rectified at a reasonable cost.

I wonder if there are any efficient ways of cursor position and of clearing the screen without having to restart.

Looking forward to comments in due course.

Diolch'n fawr

Henry Haye

Flat 10
Pembroke Court
Rectory Road
Oxford OX4 1BY

Dear Andrew

May I point out an error on page 2 of Vol.2 No.4 of the Journal? It should of course read: "This page unintentionally *not* left blank".

Yours sincerely

Sebastian Linfoot

The Oare Windmill
Faversham
Kent ME13 7TJ

Dear Mr Clarke

I mentioned to Derek Fordred that I would be interested in meeting members of the CP/MUG, and he suggested I write to you, as nothing positive was yet in the pipeline. Perhaps I can help.

I work in the Oval Office, which is a moderately sized room, being 150° of the ground floor of this heap of bricks known as the Oare Windmill. It could house a meeting of about six, and this would be a good number allowing two to each screen. My computer is a steam driven Jarogate MP/5 with three users each with screen and keyboard. It runs at 4 Mega MPH, but finds it a bit uphill when everybody is wanting the Winchester's secrets at the same time. It is not new.

I say two per screen as I assume that people attending local protest meetings usually want to play with the equipment as well as talk.

I would rather provide the venue than the organisation. Does anybody want to be organiser? My insurance company also insists I state loudly that all persons entering here do so entirely at their own risk.

Yours sincerely

Roger Jameson

Microprocessor Operating Systems Interface (MOSI)

by Colin J. Ashford

Summary of Draft 6.2A for a Standard Specification, issued by Task Group P-855 of the IEEE, approved by the IEEE Computer Society. The draft issue is 92 pages, plus 53 pages of language bindings.

Summary

MOSI plus Open Systems Interconnection to ISO 7498 provides most of the standards required for the full interworking of a wide range of micro-processor based data processing and control systems. Specific bindings will be required for parameter passing in each topic area.

Scope

This standard applies to program interfaces for microprocessor operating systems. These program interfaces are used by microprocessor applications to interface with operating system services. *The standard is not an operating system standard.* It defines a program interface to any operating system. This interface can be implemented as a direct interface to an operating system, a source transliteration from the MOSI interface, or a dynamic link library translation.

Objective

The goal of MOSI is to facilitate the writing of portable application programs or systems. Using this specification, a programmer should be able to write programs that, with little or (ideally) no changes at the source level, may be run on many different "computer systems", ie particular machines running particular operating systems. This document designates the capabilities required by various microprocessor-based applications.

The underlying support for the application is referred to as the environment. Running an application in a given environment involves use of a language translator that accepts programs in that particular language and produces executable code in the target environment.

To be widely useful, this specification must be applicable to a variety of microprocessor operating systems and languages, including those already in widespread use. In particular, this specification has :

Made few assumptions about the machine architecture.

Made few assumptions about the structure or capabilities of the operating system, including file system, user interface, process management, etc.

Generalised its data types to be usable within the context of likely programming languages.

The process of transporting a given application to a new environment consists of obtaining a copy of the source program, modifying it if necessary, processing it with a translator that targets the desired system, and executing code produced by the translator. If no change to the source is required, there may be perfect portability. Minor changes to the source are usually an acceptable compromise. This specification is designed to enhance this portability.

Three components interact in preparing and executing a program: the program is processed by a **language translator**, the generated object module then runs under a particular **operating system** that controls a particular **physical machine**. The language, the operating system and the machine architecture are all predetermined and highly variable. MOSI makes no attempt to standardise or constrain the structure of any of these. However, the standard provides the application programmer with a dependable mechanism to be used to communicate within a chosen language with the operating system. It is the responsibility of a conforming operating system or language translator to provide the appropriate interfaces as specified within MOSI.

Capabilities

The MOSI standard provides a list of service categories for applications to use. Each category is called a capability and includes one or more modules. Each module in a capability is comprised of a set of functions that are logically related by the common set of resources on which they operate. The collection of capabilities described by the MOSI interface is intended to encompass all those generic capabilities that are recurrent throughout various environments. This collection is listed below and is described in detail in each of the sections.

Memory Management

Time Management and Scheduling – includes time of day and date functions.

Data Transfer (Input-Output)

Data Management

Process Management

Process Synchronisation and Communication

Interface with the Environment – includes functions that enable the flow of information (both control and data) between the application and its operating environment

Exception Handling

Compliance With the Standard Specification – lays down some Recommended Configurations so that an implementor can design to the standard even though the interface being implemented is not intended to support all applications, such as a real time operating system that is built only for an industrial control environment.

The operating system services required by an application for its operating environment can be stated unambiguously using this approach.

A number of sets of logically related functions occur commonly in various applications. To support such sets, MOSI defines several **Recommended Configurations**. Each is identified, named, and its normal usage described.

Language Bindings

Bindings are presently offered for Pascal (to ANSI/IEEE Pascal 770 X3.97-1983), “C” (according to appendix “A” of the “C” Programming Language by Kernigham and Ritchie 1978), Fortran, Cobol (to ANSI COBOL X3.23-1974), Ada (to ANSI/MIL, 1815A-1983), PL/M (to Intel’s *PL/M-86 Programming Manual*, Order No.980466-003).

Each binding presents a recommended syntax for those functions in the standard that may be reasonably realised from each language.

Revisions

The standard has been written with the active participation of several companies, including Motorola, Texas Instruments, Intel, and ITT. Members of the committee are aware of future developments in microprocessors, the standard being set to facilitate extensions and revisions with future developments.

In particular, the areas identified for consideration for future inclusion in the standard are :

Multispace Memory Management – when multiple pools of memory are available.

Shared Memory Allocation – allows memory allocation in which a shared memory segment exists.

Device Input/Output – it is desirable to have device I/O functions device-category-dependent, using standard device I/O functions.

Record Locking I/O – allows synchronisation when multiple users of a file are operating in update mode.

Multiple Exception Handlers – extension to support multiple exception handlers.

Raise Exceptions Associated With Process-ID – Multiple exception handlers active in a multiprocessing environment, to allow the association of a specific process to an exception handler.

Data Management – this capability deals with functions that manipulate the contents of files. Will be address this area in combination with other standards groups.

Multiple Event Waits.

Implications for Building Management Systems (bms)

MOSI combined with Open Systems Interconnection to ISO 7498 provides the basis for full standardisation for interworking of equipment regardless of source of hardware or software. The specific problems that remain to be addressed are in the areas of :

Parameter Passing – where a standard nomenclature is required so that simple controller and central office systems can be set up using minimal, and preferably without any adjustments to the description of any function or action.

Source Code Availability – many of the standard functions for bms are highly repetitive system to system, as such, public domain availability of source code will facilitate wider acceptance of bms. Energy efficiency considerations may justify support for an early start to the provision of a low cost introduction, whilst equipment manufacturers would benefit from greater spread of development costs.

Interfaces to existing equipment – users may consider making joint approaches to manufacturers to update existing equipment to ensure standardised equipment throughout their systems.

Dissemination of equipment configuration data -- similar to that presently available for terminals, printers and modems.

Conclusion

MOSI is regarded as a "Trial Use Standard". Open Systems Interconnection is close to issue. Work to produce early bms bindings will benefit UK energy efficiency, and the bms industry – IBWG should seek early agreement for this work to be funded and presented to the public domain.

Adventures on SIG/M Disk 142

by Tiger Tom

What is an Adventure?

Adventures are games in which the player enters a make-believe world by use of the computer. The player gives instructions in simple English to indicate what he wants to do (e.g. "GO NORTH" or "THROW KNIFE") and the computer responds by describing the results of his actions (e.g. "A small path leads South. A larger one leads West. There are stones on the ground." or "You kill the Gnome").

In practice, an adventure requires a program to interact with the player, and a database of descriptions, vocabulary, activities etc. Interesting adventures generally require large databases, and so are only practical on disc based systems. Though vaguely aware of the long tradition of adventure games in the sub-culture of computers, I had never played a proper one, and so as soon as I got my CP/M system up and running I ordered SIG/M volume 142 from the library.

My First Adventure

SIG/M volume 142 contains two different sets of Programs:

the first are supposed to allow you to write your own adventures and consist of the programs MAKEADV.BAS, SAMPADV.ADV and SAMPADV.MAC. (These are actually supplied in squeezed form. You have to use the program USQ.COM, also on the disc, to recover them.)

Unfortunately, as far as I can make out, this set is not complete. The following is an extract from the comments at the beginning of SAMPADV.ADV

Beginning of main Adventure database section. Encoded entirely in the ADVEN language. The file is processed by Microsoft Basic using the program MAKEADV, then assembled with Macro80 relocating assembler using the /Z switch (for Z80 code), then linked with ADVEN80.REL using a link program such as L80 or LINK80.

ADVEN80.REL was nowhere to be found on this disc, nor in the entire SIG/M, UKUG or CPMUG (U.S.) catalogue. Can anyone help?

My Second Adventure

The second set of adventure programs consists of Microsoft Basic programs and their data files. ALMAZAR.BAS gives instructions and then chains to SFAMAIN.BAS. This runs the game, using data files with filetype .0, such as SFAMOVE.0. Also supplied are programs such as SFAMOVE.BAS, which write the data files.

Using Microsoft Basic interpreter version 5.2 I began to play. After a few turns I got an error message – not enough memory space. I've got 64K RAM, but my operating system uses a little more RAM than most, which gives me the equivalent of a 62K system. Maybe the program runs with an earlier version of Basic, or maybe it would run if I had a full 64K system. My solution was to compile both ALMAZAR.BAS and SFAMAIN.BAS (no problems). If you run into the same problem and haven't got a compiler you won't find it easy to save space. There is only one REM statement (line 8000). The first thing to try is removing the little subroutine at the end (line 8000 and following.) This is a cursor positioning routine, but it is only used once, at the beginning of the program, where it doesn't contribute much. If this is not enough, you could save some space by shortening some of the messages in the program, but there aren't many. However, you probably don't need a lot of space to get it to keep running.

With the game running a while, I decided it had a bug (in Adventure, it is often hard to distinguish program bugs from deliberate difficulties.) Much investigation of the source code led to an error in line 1610. The beginning of this line should read:

```
1610 IF OP(10) <> -1
```

The copy I got had the digits 10 instead of the letters IO. This makes it almost impossible to light the lamp. I don't know if the User Group Librarian corrects this type of error or if this game will be distributed with this error until the end of time, so you'd better check it if you order the disc.

There is another bug in one of the descriptions – it says East when it means West, or vice versa, but it's not serious so I didn't correct it. The game assumes all player responses in upper case letters. Probably the CAP LOCK key will solve this problem for you. I added some code at the start to set my terminal to work only in upper case, and to reset it at the end. If it's of any use, here is my code for a TEC series 500:

```
6 PRINT CHR$(27);CHR$(00);: REM sets keyboard to all capitals.  
7350 PRINT:GOSUB 7100:PRINT CHR$(27);CHR$(01);: END  
7351 REM the new bit :-----: restores keyboard
```

Is It a Good Game?

With the one bug removed the game gave many hours of pleasure to a few people. None of us have played it to the end, so I don't know if there are any more bugs. However, we have explored about 50 locations without becoming aware of one.

Part of the 'fun' of adventure consists in trying out different commands, to discover which commands work. As I have spent many hours at this type of activity with poorly documented programs, this no longer feels like fun to me. I cheated and made a hard copy of the file SFAVOC.0, the first 54 lines in which list the various forms of the 39 different verbs it understands. If you're a purist, you will scorn me for what I have done. If you just want to try out an adventure, then continue with the rest of your life, I recommend you look at this file.

If At First You Don't Succeed

SFAMAIN allows you to SAVE the point you have reached in a game, then RESUME that game later on. At first I thought of this as simply a means of carrying a game from one day to another, but later I realised the real value of this feature. When you have played the first part of the game a number of times your responses become standardised. If you get killed later on it is very boring to have to play the start of the game again. By saving the game at the entrances to Dark Caves, Secret Passages etc. you are free to explore boldly, and if you get killed you can restore the game as it was before you entered, without having to repeat all the opening moves.

The standard version saves the game as a file SFASAV.0, destroying any previous saved game. To allow a number of people to play at different times on the same disc (or to allow one player to save different positions), I wrote code to ask the player's name, and incorporate it in the file name under which the game is saved. Watch out for lower case letters – Basic will crash with a "Bad file name" error. I don't suffer because I have locked my terminal into upper case. Here is my code if anyone wants it, and still has space in memory:

```
795 REM SAVE GAME
800 PRINT
810 INPUT "What is your name ; PNS$
820 PFS=LEFT$(PNS$+"////////",8)+".SFA"
840 OPEN"O",£1,PFS: FOR X=0 TO 29:WRITE£1,OP(X):NEXT X:FOR Y=1 TO 72:
    WRITE£1,FT(Y):NEXT Y:FOR Z=0 TO 14:WRITE£1,SP(Z):NEXT Z:WRITE£1,
    RN,TU,SC,IN,PR:CLOSE£1
850 PRINT"The game is now saved for later play."
860 PRINT "To continue the same game, type RESTORE at your"
870 PRINT "first turn after resumption":PRINT:RETURN
880 REM was GOSUB 600:PRINT:END
890 REM
895 REM RESTORE GAME
900 REM IF TU>1 THEN PRINT"It is too late to resume an old game":RETURN
901 REM Above line converted to comment by T.M., following added
902 TU=1
910 INPUT "What is your name "; PNS$
```

```

920 PFS=LEFT$(PNS+"////////",8)+".SFA"
925 ON ERROR GOTO 940
930 OPEN "I",£1,PFS: ON ERROR GOTO 0
935 FOR X=0 TO 29:INPUT£1,OP(X):NEXT X:FOR Y=1 TO 72:INPUT£1,FT(Y):
    NEXT Y:FOR Z=0 TO 14:INPUT£1,SP(Z):NEXT Z:INPUT£1,RN,TU,SC,IN,
    PR:CLOSE£1:N=RN:GOSUB 7000:RETURN
940 IF ERR <> 53 THEN ON ERROR GOTO 0
942 CLOSE £1
945 PRINT: PRINT "No game was saved on this disc with that name."
950 PRINT "You can try again with a different name, or abandon the
RESTORE."
955 INPUT "do you want to try again"; PNS
960 PNS=LEFT$(PNS,1): IF PNS="Y" THEN RESUME 910 ELSE RESUME 965
965 RETURN

```

Where Next?

If anyone wants to try adventure, I can recommend ALMAZAR.

Meanwhile I am going to order SIG/M discs 1, 2 and 3 to seek new adventures.

Tiger Tom Moriarty

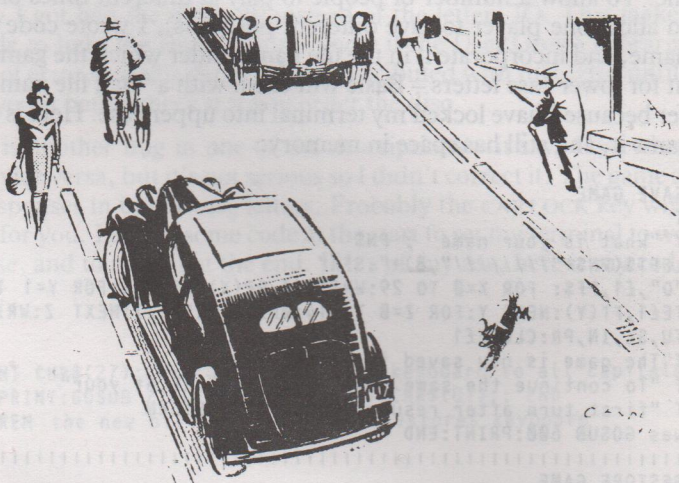


Fig. 14 (a).—Parking on a hill. The use of the kerb as a chock for the front wheels is illustrated in this diagram.



Saving Crashed WordStar Data

An exciting new arcade game:

by Alan Secker

If WordStar bombs out, can you save the data? Of course you can – well, maybe. Read on.

The location of the data in the memory ‘map’ of your computer is assumed to be unknown. To understand how you read the address of the memory locations holding your data you only need to know what they look like. *Before* the disaster takes place, try this experiment.

Run WordStar. Load a large data file, read to its end with a ^QR and then abort with ^KQ. Now quit with an 'X' and load DEBUG.COM:

A>DEBUG <cr>

Debug will return with its hyphen prompt:

-D<cr> Enter D and press return. This will *display* memory. The eight numbers at the left of each line are called its address. The address is divided into two parts:
The segment and the offset

9999:0000 The offset: The segment. These are displayed in hexadecimal arithmetic so that 0 to 9 are as in decimal but 10 = A, 11 = B, ...
.., 15 = F
Therefore FFFF = 65536 (or 64K as they say)

Thus the offset can be from 0000 to FFFF. If you say -D2000, DEBUG will display 16 lines from 9999:20000. (9999 is assumed to be the segment that DEBUG is in.)

Start looking for the data in say 1000, viz:

D1000
D2000
D3000
etc

When you spot a bit of data you recognise, try and locate the beginning. For example, if D1800 seems to be it, make a note and look for the end of the data.

Let's say that the end of the data is at 6524. Now to find the length of the data deduct one from the other.

End	6524
Start	1800
<hr/>	
	3D24

Now at the prompt enter RCX

-RCX<cr>

This invites you to change the value of the microprocessors' CX register. Enter 3D24<cr> (or whatever the length is)

Now to save the data to the file we need to name it. Let's say it is to be FRED.DAT

-NFRED.DAT<cr>

Now to write 3D24 bytes to FRED.DAT, starting from offset address 1800 enter:

W1800<cr> and quit
-Q<cr>

If you now:

A>TYPE FRED.DAT, you will see all the data that you were able to save.

Normally DEBUG will be loaded into the memory area previously occupied by the data sitting higher. The same may be true with other programs if they load their data above them. There is of course no guarantee, but I have received some very personal secretarial gratitude for retrieving an almost lost morning's work!

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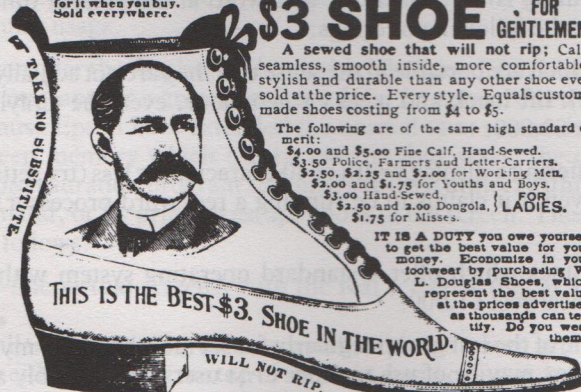
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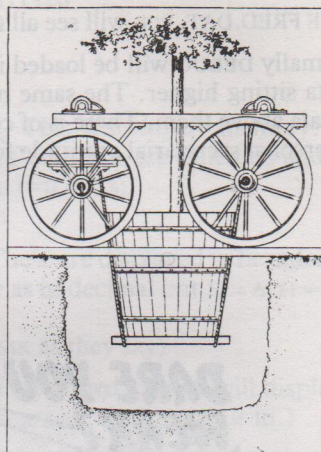
The following are of the same high standard of merit:

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Figs 319 and 320 - View and Side Elevation of Transplanting Machine for Trees of large size. The mass is raised by means of iron crowbars which fit into sockets in the rollers around which the lifting ropes are wound.

Portable Computing with Standard CP/M

by Neville Joseph

Portable computing is very much the buzzword at the present time; the market appears to have the following offerings:

1. Machines which are portable in the sense that they are not actually bolted down (given a fork lift truck and a 50KVA generator, even the Crayl is portable). Typical cost £3,000.
2. Machines offering a display width of 40 characters or less (try setting out a page with one, even if it claims to be running a real word processor) Typical cost £500.
3. A few machines which offer a standard operating system with a full width screen. Typical cost £1,000.

Having used one of the last group regularly for six months I offer my comments in the hope that they may be of use to other CP/M users. Presumably a user on that operating system will see an advantage in choosing a portable which follows similar conventions and which (hopefully) can be linked to his other equipment and/or run identical or at least matching programs.

Epson's PX-8 has been reviewed in almost every computer magazine. Unfortunately I have never seen a review which bears any resemblance to reality, because magazines were given advance copies which were workable (after a fashion), so that their shortcomings were not seen as being due to an incomplete machine, and because reviewers were journalists who used it to write their articles and did not progress to use it for anything else.

The basic computer comprises a low power but otherwise standard Z80 with 64K memory, which can therefore manage CP/M 2.2, i.e. a current version, single-user CP/M. It has, built in and taking up no extra space, a tape recorder which (at the time of the magazine reviews) was the obvious way of off-memory storage of data. Apart, however, from using a dictating machine cassette instead of a standard-size one, this is the same system which hobby computers used five years ago: running at all of 300 baud. The PX-8 also offers a facility of RAM-disc – essential for true portability – but in the basic machine this has to come out of the standard 64K, leaving a restricted amount of memory for program use, or a minute data storage capacity, or both:

not surprisingly, reviewers failed to see this machine as having substantial possibilities in the commercial world.

For real use, therefore, one must consider the PX-8 together with its 120K RAM-disc. The basic PX-8 has two small feet which, when extended, raise the keyboard to a 15 degree slope: the RAM-disc case fills in the otherwise empty space between those feet, so that apart from the small additional weight and extra depth when carrying it, the machine appears, to the user, to be unchanged. The interconnecting cable is neatly hidden by snap-on covers on the two units, although for some reason the two designers did not agree on their decorative finishes.

The combination, which has a list price of just under £1,000, is, apart from a printer, a complete system and the tape, although slow, is only needed as a backup and not for regular usage.

First of all, consider the display. This is only eight lines deep, and at first glance this restriction may appear a great handicap. It is, for spreadsheet work, but not otherwise, because Epson have extended the normal CP/M system by providing a substantial screen memory which can be used in four ways: the choice can be made from a CONFIGURATION program supplied as a CP/M utility, within the basic by the *screen* command, or by printing escape codes to the screen. These four screen versions are as follows:

- A pair of 48-line virtual screens, with the real screen acting as a window into them;
- A pair of similar screens of 39-column width, with the screen acting as a 16-line window into either of them: the top of the right-hand column then scrolls to the bottom of the left;

- A pair of similar screens, but with their total width equal to the real screen width, and with the real screen acting as a pair of windows, which can move independently;
- A graphic screen, without virtual extensions, of 64 by 480 pixels.

At the simplest, therefore, the screen merely shows the last eight lines of what has been entered or printed to the screen, with the ability to scroll back to see what would otherwise have rolled off the top, but the programmer has the power to use the screen far more effectively, and recalling virtual lines is a very fast as well as easy procedure.

When the machine is switched on, the operating system will (unless the user does not wish it) provide a display showing a selection of commands and command-called programs, and the user can run one by merely moving the cursor to its name and pressing RETURN. For example, the name of a document can be displayed and selected, and the system will know to call WordStar and direct that program to call up the named document automatically. In such a case the user need not know where the called program is, and can ignore the usual CP/M conventions of named and default discs.

This is a battery machine and saving battery power is obviously important. After a delay (selected by the user) the machine switches off but *everything* is retained so that when the user toggles the on-off switch he can continue with ease. This transfer into standby mode can be instead of switching off or (by POKEing one byte of the operating system) the user can convert the on-off switch so that it always switches into standby mode, and never switches the machine off. This is not such a difficulty as might first appear, as that switch is in any case not hard-wired: the only time one needs to switch off is to recover from a crash, and without a hard-wired on-off switch this is not possible in any case. A soft reset is available which can effectively switch the machine off without major problems (although the programmable function keys revert to their defaults, the RAM-discs, clock, calendar, and RS232 parameters are lost).

From the user display of callable programs the ESC key reverts to the normal CP/M prompt, from which all normal CP/M facilities are available. The RAM-disc is treated as disc A, the only restriction being its size (119K for the user, in 1K blocks, because 1K is used for the operating system's directories) and the directory which is limited to 32 extents.

The tape system is, so far as CP/M is concerned, tape H:. Again, CP/M sees nothing abnormal about it, but because tape is so slow and overwriting cannot be guaranteed not to damage the next file along the tape, there are actually some substantial restrictions: the directory only has space for twelve entries and space released by a deleted file cannot be refused unless that file was the last on the tape. On the other hand, the tape has a substantial advantage over CP/M discs: because it is controlled (i.e. set up) by a separate part of the operating system and not by CP/M, the setting up commands are available at any time without affecting *anything* else the user or the program might be doing. While CP/M has restrictions on changing

discs, therefore, this system allows a tape to be removed and replaced without any limitations at all. This overcomes the only problem with RAM-discs – the limitations to 119K usable space, because the user can dump material to tape without having to take risks on the tape being full. It is true that the tape is slow, but what user begrudges five minutes when the alternative is destroyed files or the loss of his worksheet?

The PX-8 comes with bundled programs which are provided on ROMs; there are two sockets under a cover in the base of the machine and Epson suggest that the user can plug in the ROMs he needs from time to time. The obvious way of life, therefore, is to use one socket for CP/M utilities such as PIP and CONFIG, and use the other for BASIC, WordStar, Calc or Cardfile, ringing the changes from time to time: this will leave the RAM-disc free for data. Alas for hopes based on advertisements, it is not possible. In practice, the ROMs can be inserted without difficulty, but removing them requires the patience of Job and even he would probably break the carriers after a few tries. On enquiry, this user found agreement with his problem from both dealer and manufacturer: the problem is that *they* can obtain replacements without difficulty, but users have to pay: even if the manufacturer accepts responsibility at first, how many breakages is it responsible to complain about, and for how long a period can one accept the loss of use while a replacement is obtained? In practice, therefore, the *only* way this machine can be considered useable is with two ROMs treated as permanent fixtures and the other bundled programs which are required kept in the RAM-disc. Obviously the choice of programs will depend on the user's needs, but as a rule of thumb it might be reasonable to divide the RAM into halves: about 60K each for system programs and data, relying on tapes to ring the fairly frequent changes which that will entail. With a small amount of planning that is not as bad as it might seem, as tape transfers can be set up and the machine then packed away, leaving it to switch itself off automatically when the transfer is finished. There is, of course, a small risk of tape failure, so that after such an operation the user should check the tape directory, but should the machinery report 'battery low' during the transfer there will be no loss of data: the operating system can cope perfectly well with it, and after the charger is plugged in and the on-off switch toggled the transfer will proceed without loss of data and, apart from the loss of time, no ill effects at all.

A few words on the bundled programs might be of use:

BASIC

This is standard Microsoft with two additions: the screen commands already mentioned, and the editing mode which provides whole program lines (scrolling more than one line if necessary) on WYSIWYG on pressing RETURN. This can be used with a split screen mode, so that two separate sections of the program can be displayed at the same time, and is a very easy way editing and updating programs.

WordStar

There is a loss of the normally standard help display because the eight line display has only room for the working part of the display, but help displays are available as temporary overlays. WordStar is generally very disc-bound, so that using the RAM-disc means that the program is faster on the PX-8 than it might be on normal equipment. Since WordStar incorporates its own keyboard buffer the speed of the display is not normally noticeable (LCD is of course somewhat slower than CRT). There are few omissions from 'standard' WordStar to squeeze in into a 32K ROM, noticeably column usage, decimal tabs and proportional spacing. The writer had never used WordStar before and the manuals are so clearly written that he found himself at home almost immediately; using cursor keys instead of control codes, of course, speeds up both learning and usage, and only the dot commands do not appear on the help screens. The ^o help screen tells the user the state of the various toggles without confusion. In WordStar, the five function keys are defined to set margins, toggle underline and find the start and end of a file, so that saving the work and resuming at the end only takes three key depressions and, of course, saving to RAM is much faster than the equivalent disc operations. RAM-disc restrictions are alleviated by WordStar's practice of deleting the BAK file where necessary, although there is still the possibility of the document growing to the point where the disc cannot even hold one copy. The manual implies that this is a catastrophe because WordStar will not accept the tape as the default and working 'disc', and although a file can be deleted, it is not possible without leaving WordStar to see the directory or to move a file and so make room. All is, however, not lost: although the document cannot be moved to tape as such, it is possible to place block markers at the top and the bottom of the work and then write the block so defined to tape. The operating system, as mentioned earlier, allows tapes to be changed without leaving WordStar. That allows the user safely to leave the program, resume CP/M, juggle files and then resume WordStar and read the block which had been taped. It is true that the recovery procedure may take ten minutes, but how often has the inflexibility of CP/M and conventional WordStar caused a user to think that a ten-minute penalty is a small price to pay for an emergency back-up system. The confidence given by having such a back-up is also a major incentive to use the system, and means that although (when typing this line) the writer knows that his disc does not have enough space to hold a BAK file, he is ignoring the warning and continuing with his work, just as he can afford to ignore the risk of low battery, which will only mean a temporary interruption to his work and not the loss of even the last few characters.

Calc

With regret, the writer has to admit that Calc is a difficult program to use happily. The only positive factor it offers is the full width screen. There is no way of freezing titles or windowing, the buffer only holds two cursor movements off screen, and the program has a tendency to crash. In particular, it will crash if an attempt to store a worksheet is made when the disc directory is full: in such a case recovery by reset means the complete loss of the worksheet. Another restriction is

that no printout can exceed what the programmer thought was a page, i.e. 80 columns by 55 lines. If anyone yet has made substantial use of spreadsheets which are not wider than 80 columns that writer would like to know why he bothers to use them at all; had the programmer never heard of 12- and 15-pitch printers, and carriages of 11, 13 or 15 inches wide? Fortunately there is a way round the problem by writing each permitted page to a file on the RAM-disc, and then using a home-written BASIC program to read the several files and print them in a usual form, but the need to have to resort to such tactics does not reflect credit on the program.



Cardbox

The writer has only used this for a few minutes, and cannot fairly comment. If it actually works as its manual suggests it is a very useful tool although it may well need real discs bearing in mind the necessity mentioned of using part of the RAM-disc for bundled programs. The normal version of this program, of course, requires a 24-line display, and the PX-8 version divides this into slices which can be called up by the function keys as required; clearly some considerable thought has gone into overcoming the screen limitations.

Config

A simple program which spoon-feeds the user into setting up this machine to suit his needs without difficulty. The RS232 port, the screen display and soft function key under CP/M, the date and time and other matters not covered by CP/M can be set so easily that reference to the manual is not just superfluous, it is more confusing than the program's screen prompting.

Finally, the approach which Epson have made to a portable CP/M can usefully be compared with that of the Bondwell 8. The latter machine has a full sized screen (25x80) and has a disc drive built into the body of the machine which can load standard CP/M programs. The machine copies a normal CP/M machine, with 64K memory and disc drive built into the case. The machine can only be switched off in the way in which any other machine can be switched off – by the loss of everything not previously stored on disc. It is not possible, to save battery power, to switch into standby mode and resume later, nor can the user have his screen do more than act as a glass teletype: 25 lines are on view, but no scrolling or previous entries nor duplicate screens. That machine has the great virtue of using CP/M 2.2 precisely, and its bundled spreadsheet program shows 10 or 15 lines at a time, but commands (even GO TO) are called from disc. No doubt to save battery power the 780L runs at half the speed of the PX-8 equivalent, so that the result is very slow, much more friendly and useful. Generally speaking, however, Bondwell's approach must invite the obvious question: why have an 8-bit portable when there are so many 16 machines available, and if compatibility is wanted then 16-bit MS/DOS is preferable to 8-bit CP/M. The objection is, of course, partly one of cost: the Bondwell is 50% more expensive than the PX-8 with RAM-disc. Furthermore, the current state of the art for displays means that the 8-line displays of the PX-8 can be lived with, as is acceptable for portable usage: although the full size display of the other machine at first sight means that it could replace the standard desk top, the current standard of LCDs work against such usage: LCDs are for portable or short-term use, and far less acceptable than CRTs for long-term office use. Although they have sacrificed portability of programs, Epsons have offered the user an operating system which extends CP/M substantially, and particularly in directions in which CP/M shows its age. Although programs may not be widely available, Pascal, Fort and Cobol can be obtained. The writer has not regretted his purchase and (as at 26th June 1985) has not seen anything as good for portable needs costing less than three times as much.

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BEST'S PROCESS - BAKED

Open Systems Interconnection

The International Standards Organisation have ratified an architectural model for Open Systems Interconnection (OSI) which is now a full International Standard, IS7498. The aims of OSI are that all computers conforming to OSI standards will be able to interconnect and interwork. The term computers here includes intelligent terminals, workstations and other intelligent equipment.

The model separates the many functions to be catered for into seven functional layers each offering a well defined interface to the layer below, and service to the layer above. Within these layers are included the currently sought-after standards e.g. virtual terminal, standard document, etc., and so the attainment of OSI will realise a working set of standard interfaces. How the functions and interfaces are provided is not relevant, thus catering for competition, invention and new technologies to the benefit of the user, which was not always the case before.

The movement of data, text, graphics, voice and pictures will follow. Included in this transfer will be programs, hence the importance of portability and the timeliness of this report to prepare for the benefits of Open Systems Interconnection.

In April 1981 the government set up the FOCUS Committee chaired by the parliamentary Under-secretary of State for Industry. The committee was charged with co-ordinating and focussing our disparate IT standardisation efforts on to higher priority work. The areas chosen to receive this support were Open Systems Interconnection, Local Area Networks, and Teletex and Videotex. The Department of Trade and Industry established an IT Standards Unit to service this support, and this has had the effect of progressing prospective standards through the necessarily lengthy standardisation process.

Although international standardisation takes a long time, involving at least two rounds of voting, the technical content of a standard is often stable before this. Where political acceptance is also widespread, a standard could, with some small risk but very considerable advantage, be introduced into service before completion of all the acceptance procedures.

This forms the basis of the Intercept strategy to hasten implementation of OSI standards, which is being adopted throughout the UK.

	7	APPLICATION	
	6	PRESENTATION	– Applications functions
	5	SESSION	
Layers –	4	TRANSPORT	
	3	NETWORK	
	2	DATA LINK	– Communications functions
	1	PHYSICAL	

The OSI Reference Model

Extracted from LAMSAC/DEPT. of ENVIRONMENT *Microcomputing in Local Government Research Project Phase II - Software Portability.* (April 1984)

☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆
Standards for Data File Transfer, Access and Management

FTAM

An ISO draft proposal DP8571 presented at the ISO TC97/SC16/WG5 meeting in Copenhagen 18-22 June, 1984, discussed a Standard for File Transfer, Access and Management (FTAM) based on a definition of a virtual filestore, which provides a common model for file structure and attributes. FTAM comes in four parts :

- 1 General Description
- 2 The Virtual Filestore
- 3 The File Service Definition
- 4 The File Protocol Specification

Each part is balloted individually.

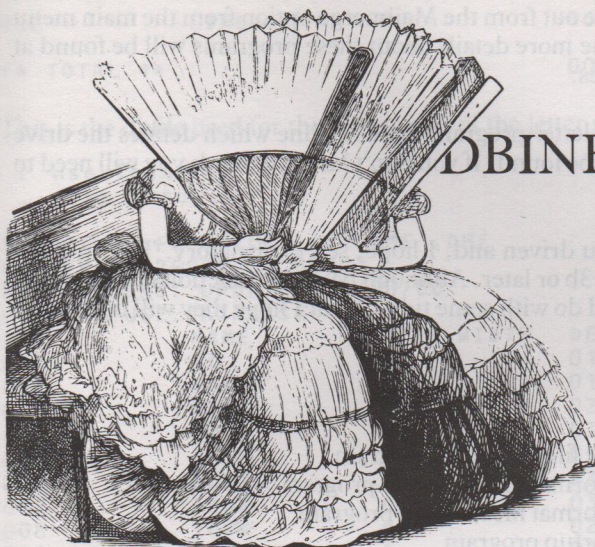
Standards associated with ISO 7498 are ANSI – X 3T5, CCITT – SG VII / X.200, and ECMA TC23.

References

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DBINFO

a dBase Helpfile

So far the only dBase II programs I have seen in the library are a couple of SIG/M volumes, which seems a bit suprising considering the popularity of this program. So to put this lack to rights in the UK library I have submitted the following items (I have a lot of other dBase II material which when time permits will also be submitted):

LABEL.CMD

A program to print three-across-the-web labels. This program was a quick lash up for my own use for printing labels where many of the same kind of label are required eg disks labels, price labels etc. A database of label types can be maintained, when printing the number of each type to be printed can be set. This program was originally designed to run with a Epson printer so if you are using something else you may need to change (the codes in the printer file LABPRNT.CMD).

NAMES.CMD & LETTERS.CMD

This is a name and address filing system with the additional facility of producing form letters. A separate file of standard letters is maintained in the LETTER.DBF file. There are two demo letters in this file which contain more info on the program. You can print these out from the Mailmerge option from the main menu of the NAMES program. Some more details about these programs will be found at the start of the command files.

Note: At the beginning of the letter program there is a line which defines the drive on which the data files are to be found. If you don't have a drive d: you will need to edit this.

All these programs are menu driven and, I hope, self explanatory. To run them you will need dBase II ver. 2.3b or later. Although basically functional, due to lack of time these programs could do with some tidying but I hope they will be of some interest to dBase fans.

The files submitted are:

INAME.DBF	database file for names program.
INAME.FMT	screen format file for names program
LABS.FMT	screen format file for label program
LABELS.CMD	label startup program
LABFIND.CMD	part of label program
LETTER.DBF	data base file for letters
LABPRNT.CMD	part of label program
LABELS.DBF	label data base file
LETTER.FMT	screen format file for letter program
DBINFO.TXT	Info about db programs
LETTER.NDX	index file for letters
LETTERS.CMD	letter program
NAMES.CMD	name program
CHECKOUT.CMD	part of label program
LABCLN.CMD
LABCRE.CMD
LABENT.CMD
LABSEL.CMD
MENU.CMD
TEMPLATE.DBF	Demo data base
FILES.INF	THIS FILE

This is the db file used for storing letter lines.

- use letter
- disp stru

```

STRUCTURE FOR FILE: D:LETTER.DBF NUMBER OF RECORDS: 00063
DATE OF LAST UPDATE: 00/00/00
PRIMARY USE DATABASE
FLD      NAME      TYPE WIDTH  DEC
001      LCD       C       005
002      LINE      C       065
** TOTAL **                                00071

```

This is the dbfile used for the names part of the letter program.

```

. use 1name
. disp stru

```

```

STRUCTURE FOR FILE: D:1NAME.DBF
NUMBER OF RECORDS: 00002
DATE OF LAST UPDATE: 00/00/00
PRIMARY USE DATABASE
FLD      NAME      TYPE WIDTH  DEC
001      CC        C       010
002      NAM1      C       012
003      NAM2      C       023
004      TITL      C       035
005      COMP      C       035
006      ADD1      C       035
007      ADD2      C       035
008      TOWN      C       025
009      PCOD      C       010
010      CONT      C       035
** TOTAL **                                00256

```

The following example shows how a data base file can be used as a template for the creation of another database file.

The procedure is: create template file as shown below then append records, each record to represent the field of the final dbfile to be created.

The db file is then created by the command

```
'CREATE <filename> FROM <filename>'
```

In the example the LABELS.DBF was created from the template file.

```
. disp stru
```

```

STRUCTURE FOR FILE: D:TEMPLATE.DBF
NUMBER OF RECORDS: 00028
DATE OF LAST UPDATE: 00/00/00
PRIMARY USE DATABASE
FLD      NAME      TYPE WIDTH  DEC
001      FIELDNAME C   010
002      FIELDTYPE C   001
003      FIELDLEN  N   003
004      FIELDDEC  N   003
** TOTAL **                                00018

```

The following is the template from which the labels db file was created.

. list

00001	OPCD1	N 2 0
00002	GAP1	N 2 0
00003	LIN1	C 36 0
00004	OPCD2	N 2 0
00005	GAP2	N 2 0
00006	LIN2	C 36 0
00007	OPCD3	N 2 0
00008	GAP3	N 2 0
00009	LIN3	C 36 0
00010	OPCD4	N 2 0
00011	GAP4	N 2 0
00012	LIN4	C 36 0
00013	OPCD5	N 2 0
00014	GAP5	N 2 0
00015	LIN5	C 36 0
00016	OPCD6	N 2 0
00017	GAP6	N 2 0
00018	LIN6	C 36 0
00019	OPCD7	N 2 0
00020	GAP7	N 2 0
00021	LIN7	C 36 0
00022	OPCD8	N 2 0
00023	GAP8	N 2 0
00024	LIN8	C 36 0
00025	SELCOD1	C 6 0
00026	SELCOD2	C 6 0
00027	PRNNO	N 4 0
00028	INC	L 1 0

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Counterfeits.
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is signed
"Jewsbury
& Brown."

This is the db file produced.

```
. use labels
. disp stru
```

STRUCTURE FOR FILE: D:LABELS .DBF

NUMBER OF RECORDS: 00000

DATE OF LAST UPDATE: 00/00/00

PRIMARY USE DATABASE

FLD	NAME	TYPE	WIDTH	DEC
001	OPCD1	N		002
002	GAP1	N		002
003	LIN1	C		036
004	OPCD2	N		002
005	GAP2	N		002
006	LIN2	C		036
007	OPCD3	N		002
008	GAP3	N		002
009	LIN3	C		036
010	OPCD4	N		002
011	GAP4	N		002
012	LIN4	C		036
013	OPCD5	N		002
014	GAP5	N		002
015	LIN5	C		036
016	OPCD6	N		002
017	GAP6	N		002
018	LIN6	C		036
019	OPCD7	N		002
020	GAP7	N		002
021	LIN7	C		036
022	OPCD8	N		002
023	GAP8	N		002
024	LIN8	C		036
025	SELCOD1 C	006		
026	SELCOD2 C	006		
027	PRNNO	N		004
028	INC	L		001
** TOTAL **				00338

```
. quit
```

*** END RUN dBase II ***



Book Reviews

Introducing CP/M on the Z80 Second Processor

by Bruce Smith

This book, written by the Technical Editor of Acorn User is published as "an introductory guide to CP/M on the BBC Micro Z80 Second Processor" for users with knowledge of the BBC Micro but no prior knowledge of CP/M. Since I have a rudimentary knowledge of both the BBC micro and CP/M, I felt qualified to review this book.

Chapter 1 starts with information on what CP/M is, together with good advice on the care and handling of disks. It ends with an introduction to booting up CP/M and obtaining the directory listing of a disk. Mr. Smith apparently uses disks encased in cardboard cases; I prefer the plastic variety used by all the suppliers I've seen so far!

Chapter 2 covers backing up of your master disks and some notes on BBCBASIC. A special utility PREPARE has been provided to make the process easier and this is described here.

Chapter 3 called 'Inside CP/M' deals with the memory maps for both the BBC Micro and the Z80 second processor. I would think that a newcomer to CP/M might find this rather heavy going and it should have been relegated to an appendix.

The next subject covered is CP/M's resident commands: ERA, DIR, REN, TYPE, USER and SAVE. This includes file naming conventions, action of control keys and detailed descriptions of each command with examples. The reader is encouraged to try the examples to gain experience.

Chapter 5 describes STAT including the `ss` option, which I haven't seen described before, and chapter 6 has a very good description of PIP and its usage. I particularly like the inclusion of FORMAT and SYSGEN in this chapter. After all, you will usually need to format a disk before copying to it, and you will frequently need to put a system onto the disk as well. Once again the subjects are covered clearly and thoroughly.

The next three chapters I am much less happy about. They cover the use of the CP/M text editor ED (and 41 pages – nearly a quarter of the book). On the one hand, I use ED nearly all the time, so I found the material interesting reading, but I accept that not everyone shares my enthusiasm and most BBC Micro users would probably prefer to use a word processing package. If you aren't going to use ED then these chapters won't be of much interest. However, having said that, this is easily the best description of the editor I have seen, covering even the obscure commands. The author has evidently spent a lot of time with ED. The third of the ED chapters is devoted to the use of macros and library files.

Chapter 10 deals with SUBMIT and XSUB including parameter substitution. Again, many examples are included in the text making operation very clear. There follows a very short chapter on DUMP and MOVCPM.

Chapter 12 is called 'The Machine Connection'. This covers ASM and DDT with an example of a program to allow a warm start into BBCBASIC. Chapter 3 could have been merged with this chapter rather than being placed early in the book.

Chapter 13 is devoted to machine-specific aspects of CP/M use such as screen and printer driving and the use of VDU and *FX commands. It also includes two program listings for the reader to type in. One is an autoloader program with menu selection, the other allows the BBC Z80 CP/M user to read CP/M files. The programs are repeated in Appendix C in bar code format for owners of the MEP bar code reader. The chapter ends with a description of the DIP copying utility.

The book ends with Appendix A (sources of further information), Appendix B (a list of the files on each disk generated by PREPARE) and Appendix C (bar codes).

There are one or two errors in the book, but nothing which the new CP/M user would need to worry about. I particularly liked the thorough treatment of each subject covered. I found information and examples in this book which I have not seen covered elsewhere. The book shows evidence that the author has not only used CP/M but is an enthusiastic user! I would have preferred less coverage of ED and perhaps a chapter or two on the other packages supplied with CP/M. Perhaps the author is saving this material for another book.

Introducing CP/M on the BBC Micro Z80 Second Processor is published by Collins Professional and Technical Books, William Collins Sons & Co.Ltd., 8 Grafton Street, London W1X 3LA. The price is £9.95.

This book is from the same publisher, Collins, as the BBC Micro book reviewed above. However, there the similarity ends.

Since Collins sent both books for review at the same time, I cannot help comparing the different approaches of the two authors to the subject. The audience, according to the Preface, is 'the beginner to disk systems'. Unfortunately for our Amstrad members, CP/M is covered only briefly in one chapter. In contrast to Bruce Smith's book, ED is dismissed as a 'specialised program for machine code programmers' together with DDT and ASM. CP/M on the Amstrad appears to be used, according to this book, for file copying only, with all the serious work done under AMSDOS. The CP/M files are described as 'of little use to you', and 'of only specialist interest'.

The AMSDOS system is covered quite thoroughly, with chapters devoted to disk basics, the disk filing system, BASIC filing techniques, an example database program, disk utility programs (AMSDOS) and printers.

I feel that Amstrad users wishing to learn about CP/M would be advised to consider the purchase of the BBC book rather than this one. For an extra £2, you get a lot more CP/M information and most of the book will apply to the Amstrad as well as the BBC Micro.

The Amstrad CPC464 Disk System including CP/M and Printers is published by Collins at £7.95.

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3 Pascal Book Reviews

by David Scott

The titles listed below are not necessarily in order of merit. However in this review I shall try to show the increasing complexity of each of them. There is also a sample program from each book listed to show roughly the sort of reader it is aimed at. I would recommend readers who wish to take full advantage of these books to own or purchase a Pascal compiler.

Pascal for Micros

by Mike James

Pascal for Students

by R Kemp

Pascal Compiler Validation

by Brian A. Wichmann & Z.J. Ciechanowicz

Pascal for Micros is one of the more recent books published which is aimed at the complete beginner and assumes no prior knowledge of BASIC or any other language. However I would recommend any reader to have a Pascal compiler if they wish to take full advantage of this book, as there are many listings in it. For example, at the start of part two the following general definition of a Pascal program is shown with a simple example as shown in figure one below.

```
PROGRAM name
  definitions
BEGIN
  instructions
END.

PROGRAM sum;
VAR total,number1,number2:INTEGER;
BEGIN
  number1:=4;
  number2:=3;
  total:=number1+number2
END.
```

Fig 1: Simple program and a general definition of the structure of a Pascal program.

Pascal for Micros has 170 pages and contains twelve chapters altogether entitled as follows:

- All about Pascal; The Pascal program; Variables and assignment;
- Data types and Expressions; The flow of control; Pascal in practice;
- More on data types: Boolean, char, scalar and user-defined types;
- Input/output – sequential files; Structured types; Practical Pascal-II;
- Some advanced features; Describing Pascal.

It also contains four appendices which list reserved words; Precedence of operators; predefined identifiers and details of four implementations of Pascal and how they differ in their methods of handling files.

I found that although there is a wide range of subjects covering most aspects of Pascal, it was let down by the fact that many of the practical examples were not detailed enough and in most cases were just the very bare bones of a program. However, in saying this, Mike James does say that the programs are incomplete and it is up to the reader to modify as required. Also I feel that Mike James could have gone into more detail on pointers and random access (which is not even described). Although this may not be needed by the beginner, once you get past the initial learning stages of Pascal, many people will wish to explore the above areas for fun and the development of applications. But in saying this, Mike James

does provide a very good introduction to the Paseal language which is suitable for people with no programming experience in BASIC or any other language. One of the ways that Mike James helps you is by giving a set of questions at the end of each chapter. This can assist the reader who wants to make sure he has remembered all that he has read. There are also answers to all questions at the back of the book so that you can make sure you get the right answers.

Like most books on Pascal, Mike James tends to use mathematical problems as a way of learning Pascal. I have no objections to his doing this, as it shows up the Pascal language very well, but I feel that any person new to programming would not want to read all about solving mathematical problems, but would be more interested in developing programs that they can use themselves. It is not until chapter ten that he lists a program which is not based on any mathematics. It is a simple telephone directory program demonstrating record handling in Pascal. 'Pascal for Micros' is concluded with a chapter which shows how to describe Pascal and explains why it is required, the chapter finishes with a listing of all the syntax diagrams as used in Pascal.

Mike James also compares five implementations of Pascal compilers for microcomputers. They are UCSD Pascal (University of California, San Diego); Pascal M; Pascal MT+; Pascal-Z and TCL Pascal. Unfortunately I have not used any of these Pascals, so I cannot make any comment on Mike James' opinion. However I do agree with his comments that UCSD Pascal was an important factor in the rise to fame of Pascal which he says in the first chapter. I would be interested to hear from readers who have used any of the above Pascals and get any opinions of how they would compare their version to Turbo Pascal which I use quite often. The Pascals listed above tend to be more expensive, particularly UCSD Pascal. I would like to know if readers feel the extra cost is justified and if so in what way is it better than any other Pascal.

Pascal for Students

by R. Kemp

Although this book was made primarily for first year degree students doing an introduction to programming, it is also aimed at anyone with no programming experience and it is therefore suitable for people wishing to learn to program in Pascal with a view towards a future career. However there is a high content of examples based on mathematics, to a far greater extent than in *Pascal for Micros* as reviewed above.

One of the features I liked about this book was that once you understood the basic principles of a subject there was still adequate information given for the more advanced reader. Not only does R. Kemp explain the Pascal language very well, but also has plenty of examples of increasing complexity. Unfortunately, many of examples are biased towards mathematical problems, as is shown in the program in figure two below from chapter two.

```

PROGRAM QUADRATICTEST(INPUT,OUTPUT);
(* PROGRAM 2.2
   DETERMINES WHETHER A QUADRATIC EQUATION HAS REAL DISTINCT,
   EQUAL OR COMPLEX ROOTS*)

CONST EPSILON = 1E-5;          (* ACCURACY REQUIRED *)

VAR   DISCRIMINANT,
      A,B,C:      REAL;        (* COEFFICIENTS OF QUADRATIC *)
      REALDISTINCT,
      EQUAL,COMPLEX:  BOOLEAN;  (* ROOTS *)
      (* TYPES *)

BEGIN
  READ(A,B,C);
  DISCRIMINANT := SQR(B)-4*A*C;
  REALDISTINCT := (DISCRIMINANT>EPSILON);
  EQUAL        := (ABS(DISCRIMINANT)<=EPSILON);
  COMPLEX      := (DISCRIMINANT<-EPSILON);

  WRITELN('PROGRAM 2.2  DETERMINATION OF QUADRATIC ROOT TYPE');
  WRITELN('=====');
  WRITELN;
  WRITELN('COEFFICIENTS :   A = ',A);
  WRITELN('                   B = ',B);
  WRITELN('                   C = ',C);
  WRITELN;
  WRITELN('TOLERANCE           = ',EPSILON);
  WRITELN;
  WRITELN('REAL DISTINCT ROOTS : ',REALDISTINCT);
  WRITELN('EQUAL ROOTS           : ',EQUAL);
  WRITELN('COMPLEX ROOTS         : ',COMPLEX);
END.

```

Fig 2: Sample program to demonstrate the use comparing REAL values and BOOLEAN variables.

Pascal for Students has 225 pages and contains the following eleven chapters, in two sections. Each chapter also contains from two to five smaller chapters, each based on the title of the main chapter. The main chapters in section one are titled as follows:

Fundamentals; Evaluating formulae; Comparisons and characters;
 Repetition; Conditional execution and transfers; Subprograms.

and in section two:

Arrays; User-defined scalars, subranges and record structures;
 Files; Pointer structures; Set structures and tackling a larger
 problem.

Also included are six appendices which are titled as follows:

- Syntax diagrams for Pascal;
- Reserved words and standard identifiers;
- Standard functions and procedures; Common codes;
- Portability
- and a Bibliography which suggests a selection of books on other programming languages.

Although I found this book to be very good, one of the features I disliked about this book was that R. Kemp makes a lot of reference to out-dated computer equipment.

For example, he refers to several programs as getting information from punch card readers, which people rarely use today. However as this is aimed mainly at degree students, it may be required as part of their course to know how punch card readers worked, but in any case the sample programs will still work with little modification on any microcomputer that has a Jensen & Wirth compatible compiler. Also unfortunate is that no mention is given of microcomputer implementations of Pascal. There is however an appendix on portability which shows some enhancements and differences in interpretations of the Pascal language. There are also comments made on the limitations and bugs in present day compilers in both mainframe and microcomputer implementations.

In general I found that R. Kemp provides adequate information; unfortunately, like *Pascal for Micros* above, no details are given on random access, although suitable information is given on pointers and serial access. One of the reasons for this could be that random access is an extension to Pascal as stated by Jensen & Wirth. However, as many of the newer Pascals have this extension, I feel that the basics of random access should at least be explained. In any case, I feel that more than enough information is given for people new to programming, but the more advanced user has to look towards his compiler manual or a more advanced user guide.

Pascal for Students also has short quizzes in five of the eleven chapters as well as some quite detailed exercises at the end of ten chapters. I found the short quizzes very helpful, but the exercises tended to be biased towards mathematical problems. Each chapter then concludes with a summary, going over the subjects covered in the last chapter. Overall, I would recommend this book to anyone who wishes to learn Pascal in detail.

Pascal Compiler Validation

by Brian Wichmann & Z.J. Ciechanowicz

Pascal Compiler Validation (pcv from now on) is one of several books which try to define the Pascal language and try to find out if Pascal compilers are suitable to be tested with the validation suite, which consists of some 20000 (644 programs aprox) lines of program source code for version 3.0 of the test suite. The purpose of the

validation suite is to test a Pascal compiler to see if it conforms to the ISO (International Organization for Standardization and the BSI (British Standards Institution) standard. To date the only Pascal compilers I have heard of passing this standard is Prospero Software Ltd, with Pro Pascal and ICL, of which I have no details.

The object of PCV is to advise implementors (compiler writers) and users of the Pascal language, on whether it is worth while for them to purchase the Pascal suite. PCV also contains some sample programs from the suite so that possible buyers can do some initial testing. PCV contains the following thirteen chapters in 176 pages:

- Introduction; The Pascal compiler validation project;
- The Pascal Standard; The validation suite;
- Developing the testing procedures;
- Second thoughts on the validation suite;
- The Pascal standard from the implementer's viewpoint;
- A manufacturer's viewpoint; Pascal validation user's guide;
- The role of BSI in testing; The SOL project and validation;
- Discussion and Compiler validation – a survey.

Also included are three appendices which are entitled:

- Extracts from the Pascal Test Suite;
- Has the program been altered?; The assumptions program.

Listed in figure three is the assumptions program which readers can use to test their compilers to see if they fit the basic requirements of the test suite.

Details are also included of the role of BSI in testing. I found this to be very helpful as it is BSI that will control the setting of standards for the UK and as this will be the main market for many software houses it is essential that they know what standard of software to produce. PCV includes details of problems that are encountered in validation; the two year validation project and details of the benefits of a compiler validation/certification service. All this helps to assist newcomers to the validation service. Also included is a survey on compiler validation. This includes detail on language extensions; the vagueness of current standards; the quality of a compiler and a standard compiler as well as other factors affecting a survey on compiler validation. This is very helpful as it shows how the standard can vary according to a manufacturer's requirements. The survey also gives details of existing validation suites for the following languages:

ADA ALGOL 60 ALGOL 68 BASIC COBOL CORAL 66 FORTRAN PEARL and RTL/2.

The purpose of this program is to check that the basic requirements for running the test suite are met by an implementation. It does not form part of the test suite, but is an aid to avoid problems with the suite when running all the programs.


```
writeln(' CURLY BRACKET IS ',curlybracket);
writeln('SQUARE BRACKET IS ',squarebracket);
end.
```

Fig 3: Assumption program, to check that a compiler has the basic requirement of the test suite.

As well as the survey there is also discussion in chapter twelve which although short (eight pages), does help to answer some of the questions that possible users of the test suite may want to ask, such as 'How can one test extensions?'. I found this very helpful as I had not considered some of the questions asked, for example: 'Should you take legal action against suppliers who supply non-standard compilers?'.

At the end of most chapters there also a list of references on which that chapter was based. Also included are the names and addresses of any of the people and/or organisations which were used or involved in the writing of this book. I think that this is very helpful as many of the people and companies that purchase PCV will not wish to search for the organisations which run and support some or all of the validation projects that are presently being supported.

PCV also includes extracts from the Pascal test suite in appendix A. There is a total of thirteen different programs included, the smallest program being 15 lines, the largest 78 lines. All the programs are from the current test suite and can be used to illustrate the test suite to possible users who do not wish to purchase the whole suite. As well as the above program, appendix B contains a program to verify that the source code of a Pascal program has not been altered. This program produces six 16-bit check digits which are used as a form of checksum to verify that no source code has been changed. Appendix C contains the assumptions program as listed in figure three, which is used to see if a compiler has the basic requirements for running the test suite. This book has more than enough information to suit most users.

A Conclusion

Pascal for Micros

I would recommend this book to anyone that has no programming experience, as it provides plenty of examples. Also Mike James has a casual way of putting over a topic which should appeal to the reader new to programming in Pascal.

Pascal for Students

Like the book above, I would recommend this book to people new to programming. However, as the book was originally aimed at first year degree students I would recommend you only to consider it if you have lot of interest in mathematics. This book also has plenty of examples that should be of use to anyone with an interest in Pascal.

Pascal Compiler Validation

Unlike the above to books, PCV is not a tutorial on the Pascal language, but is aimed at anyone who wishes to know more about improving the efficiency of their Pascal compilers as well as making sure their Pascal conforms to the ISO/BSI standard. I would also be interested to hear from readers who use ProPascal, as I do not at present use this Pascal and it is the only popular Pascal that I know that has passed the ISO/BSI standard with a class A certificate. As far as PCV is concerned I would recommend it to people with programming experience in Pascal, or any other language for that matter, who now wish to know more about their language and what requirements are required to pass the ISO/BSI standards.

dBase II – Developing Applications

by Tony Sharw

Reviewed by Colin J. Ashford

From the beginning, this book shows by example how dBase can be used on applications based on a relational model. It does not smother the reader with numerous 'near misses' that can of course be modified to suit your application, the technique used in many books on BASIC. Instead, the reader is introduced to a range of database structures by the use of dBase, and is provided with enough theory to ensure that any application is undertaken with knowledge of dBase's limitations.

The first half of the book provides a user friendly introduction to dBase that initially seems similar to the User Manual. But very quickly it becomes complementary to the manual's first section, by using a tutorial approach complete with invitation to try the techniques shown. The second half provides the design progression and supporting database theory, starting with the simple question 'Why design?', then leading on to data models, relationships, and increasing storage and access efficiencies. The last section, 'Programming for Applications' gives more than examples, it demonstrates the many wrinkles used by experienced programmers.

This book is recommended for anyone contemplating or undertaking dBase programming.

Published by Addison Wesley ISBN 0 201 14654 1 at £8.95

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Kindly mention "Pall Mall Budget."

T. J. CLARK. The LABORATORY, CROUCH END, LONDON, N.

The Free Software Handbook

by T. Gregory Platt et al.

Review by Chris Atkinson

The Free Software Handbook is a directory of public-domain software. It is subtitled '1984-1985 CP/M edition', but so far as I know there are no editions for other DOS's available. The stated intention of the book can be summed up in its first sentence:

"If you believe that free advice is worth just about what you pay for it, it's nice to hear about the occasional glorious exception."

I must admit that my reaction to this title unseen was that it was probably a commercial attempt to cash in on something that you can otherwise get free. Let me begin by saying that it isn't. The book itself is expensive, but not surprisingly so in view of the usual cost of US-published computer literature. The publishers are going to some trouble (or, actually, trying to persuade other people to go to some!) to get all the software reviewed in the book onto disk formats not much used in the US such as BBC/Acorn CP/M and Torch CPM. They are not charging much more for this service than libraries like the CPMSDOSUGUK do, and there are a few items in the book not readily available elsewhere.

A quandary I fell into early in reading the book was that of deciding whether I was reviewing the book or the programs. I think it's necessary to do both, since the proof of the book-pudding is in the program-eating, if you follow me. The authors are obviously aware of the problem, and are careful to point out that there are many versions of some of their favourites – they even give the CRC's of the ones they used so you can check whether you've got them before paying for the disks if you insist. Let's look at the book first, then.

The publisher's blurb tells us that "PeopleTalk Associates .. began as a collaborative writing project of a veteran data processing specialist and a psychotherapist with a knowledge of right/left brain teaching techniques". T. Gregory Platt, one of the authors, was apparently the former, and I'm glad to say he teamed up with two other hackers to write the book. On the other hand, there's a fair bit of the typical US "don't worry, this isn't really going to hurt" sort of language in amongst the information. I've paid more for worse, but I think the biggest problem with computers at the moment is that too many people are being

told they're clever enough to use them as they are, and there simply aren't enough really clever people programming the systems to make that possible. It's certainly far from true that a beginner can use CP/M, and this book isn't going to help.

Once the CP/M user is no longer a beginner, there are plenty of programs mentioned in here that will make his/her computer a lot easier to use than most are with the software provided with them. I just wish that T. Gregory et al. had admitted they were writing for the initiated, and left out the cartoons, the backslapping and excruciating lines like "Oh, we almost forgot, before we leave you, let us present you with that Doctor of Disk Surgery degree . . ."

On individual programs, there are several chapters of good straightforward 'manuals' for the utilities they cover. They should be good – they're generally lifted straight from the .DOC files! Where there are howlers, they probably result from the programs being obtained from a bulletin board with inadequate support files with them. As an example, while praising FOOD (an inventory program) very highly, the authors complain that "We have discovered that FOOD doesn't work on all machines, and suspect that it might be related to that FOODCRT file". They don't know, or just don't tell you, that if you ERASE the FOODCRT file the program prompts you for the type of terminal you use and even lets you configure it specially for odd ones! It isn't difficult to find this out, since the FOOD.COM file is in fact Microsoft Basic compiled with OBSLIB, so you can read all the text in the program – incidentally, somebody was a bit naughty not to credit Microsoft for that, although OBSLIB is now public domain.

A similar muddle appears in the MCAT41 package (a very good system by Christensen et al which creates and maintains a catalogue of your disk contents). MCAT.SET is not provided, although the documentation refers to it and it really is necessary, and the program refers to itself as MCAT40 whereas the filename is updated.

Two final niggles about the writing before I go on to the programs: comments about DISPLAY, a file viewer, are very misleading. It's part of the same confusion over whether the readers are beginners or not – in this case, the authors assume that we all use ED quite a lot, and will therefore love to have a slightly shorter program that uses a sub-set of ED commands. Well, powerful though ED is, it's far from my favourite text manipulator, and if DISPLAY really is a new program and not a warmed-up disassembly of ED I think it should have had a configuration module so it could be customised to suit the user.

On a more theoretical level, the explanation of the CRC program gives a poor elucidation of what a 'CRC' is. The authors imply that it's the same as a simple checksum, which any reader will see is so prone to complementary single-bit errors they might not appreciate the value of the program.

The Programs

Beyond this point, I'm not blaming the authors for what I don't like. They are careful to point out that public-domain software is a dynamic entity, and they go to

considerable lengths to tell you what date they gathered revisions up to. They also give CRCs, and suggest you check revision numbers for yourself.

By and large, the programs available with the book are the newest versions of the specific item that I know of, one of the few exceptions being CRC which is rev. 4 rather than 5. There are several places, though, where there is possibly a more advanced program to do the same job and the authors don't exclude the possibility that they found it too buggy to use. They extol FIND, for example, without mentioning FYNDE which is supposed to work as FIND does but allow for squeezed files. Now I've tried FYNDE, and I can't make it work – is it just me? HELP, on the other hand, has a new relative called HJELP which does appear to provide a far more extensive repertoire (library access, offset line numbering etc.) and is so far as I can tell bug-free.

NWSWP, an expanded version of SWEEP, is a great program. I'm busy replacing SWEEP in all my utility libraries with it at present. It adds squeeze/unsqueeze and wild-card tagging to the original facilities, and the squeezing (as T. Gregory & Co. mention) is hand-stroked assembler, so it's *fast*. It also does its VERIFY function by CRCs rather than reading each sector straight after writing, which speeds the mass-transfer function up quite a lot. It does have one bug, though, which isn't mentioned in the book – it can't cope with zero-length files if it has to verify them, so if you use a REX.COM file to fudge a warm boot or if your -CATALOG files for the MCAT system have no contents, remember to copy them without using the verify option or you might hang the system.

I must admit at this point that my individual choice for the "I Wish I Had A Program To . ." chapter in the book would be an automatic erase for old games. I'll allow *Adventure*, which is in this collection, and Conway's *Life*, which isn't, but when will people admit that the thrill of seeing a computer being a Wumpus has worn off? Most of the other games here might be justifiable if they had an interface which allowed graphics to be added – GSX or the like – but in 'text-only' form they do nothing but give a poor impression of public-domain software. A similar argument applies to the BANNER, GOTHIC and POSTER suite – at least we are spared digitised pictures in text-output form.

The point with all of these is that there are just too many types of intelligent printer around now to bother with teletype compatible output. What should be available is the *data* from these programs in easily usable form – the character set from GOTHIC, for example. Then each printer can have its own driver, and the common ones like Epson will end up in the libraries. If you like historic examples of computer entertainment, though, you'll be well satisfied.

I've already intimated that I don't like DISPLAY. Since, in fairness, I should tell you why, it's for three main reasons. As I said earlier, the commands are obscure unless you know ED. The buffer is only 1100 lines, which means that is how far you can scroll back up. The authors must have known this was a problem, but they brush it aside by saying "by the time you have typed 32K into the machine you'll be a seasoned veteran". This is absolute nonsense if you're a business user doing

word processing, and anyway you wouldn't be using DISPLAY if you had an editor capable of dealing with 32K files easily. The worth of DISPLAY (if it has any) is in reading long files that you get from other people – usually .DOC files. And here arises complaint number three – not only does DISPLAY not filter bit 7 out, so that WordStar compatible files appear with graphic characters in them on many terminals, it doesn't even filter form feeds, so your screen keeps going blank – whichever way you're scrolling! Throw this one away, and use TY or VFIL instead. Neither is perfect, but they're comfortable.

Barring the few problems mentioned so far, the programs have worked insofar as I've tried them, which in some cases has been minimally. I can't resist a giggle at a comment on page 178 where we're told "Make the password something easily remembered, but not too obvious". The example given is WOMBAT, which is so common among the "Friends-of-BBCBASIC" that a machine was once re-programmed to reply "Invalid Marsupial"! To sum up, I like the programs, and feel they are very good value and a better selection than I would have found unaided. The book is a good reference work if you want a manual for the programs, but don't be fooled into thinking that once you've read it everything will be easy.

There is one major flaw in the 'package' of book and disks together. The authors have not told us where they got each program from. They suggest that they all came from Remote CP/M systems, but that won't do any good in this country. Many of the programs are, or soon will be, available in the CP/MUS or SIG/M libraries, but others might not. Where they already are, there are cases where I'm pretty sure the source-code is available and has not been included on the disks. Admittedly, this cuts down copying and distribution problems, but it undermines the intention of the program authors to give us not only the right to *use* their work but to *learn* from it and *improve* it. That's a major advantage and a shining glory of the public domain libraries, and it's a pity it got lost.

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| Formats available: | Many popular CP/M formats, including Apple, BBC, Epson QX10, SuperBrain, Kaypro, TRS80. |



Software Reviews

by Richard Gregory

US Volume 16: (Assemblers and FOCAL)

Lacks sufficient documentation, cos I haven't spent much time experimenting with the assemblers and editors.

US Volume 50: (Tiny Pascal Compiler)

This is a Tiny Pascal compiler, not likely to be of much use for compiling real programs since it has limited I/O and does not support floating point numbers. However, if you are interested in the inner workings of compilers, this is a very interesting program. Since it can compile itself, it is possible to extend it to include more features. The code generator is a separate program which means it is also highly portable.

US Volume 51: Stage II Macro Processor

This looks like it must be an extremely powerful program. My attempts to learn to use it have not been very successful yet, though. The book by the original author is unfortunately out of print. I have just found out that the local university library has a copy, so a few hours over there next weekend may be the answer.

SIG/M Volume 59: PISTOL

Looks similar to Forth.

CUG Volume 2: 1802/6800 Assemblers

No COM files for these cross-assemblers. I do have a BDS 'C' compiler but the source is full of 'hacks' that must be specific to an old version of the compiler. I have spent a long time trying to fix A68, but there still remains a bug where any output to disk files crashes the program. (Output to screen is OK!)

“

”

Quotations

What is an elephant, but a mouse with an IBM operating system.

Anony-mous

Ah well, another day, another K.

Ward Christensen.

If a programmer is found to be indispensable, the best thing to do is to get rid of him as quickly as possible.

Gerald M. Weinberg,
The Psychology of Computer Programming,
(Van Nostrand Reinhold Co., 1971)

Some years ago, when COBOL was the great white programming hope, one heard much talk of the possibility of executives being able to read programs . . . nobody can seriously have believed (this) . . . even programmers do not read programs.

Weinberg, p.5

There are . . . programs that should be thrown away before ever being used.

Weinberg, p.20

Asking for efficiency and adaptability in the same program is like asking for a beautiful and modest wife . . . we'll probably have to settle for one or the other.

Weinberg, p.22

If the programmer is working in a language that allows only three dimensions, we are not likely to observe more than three.

Weinberg, p.31

Putting a bunch of people to work on the same problem doesn't make them a team.

Weinberg, p.35

The systems designer suffer(s) because the better his system does its job, the less its users know of its existence.

Weinberg, p.124

. . . each program has an appropriate level of care and sophistication dependent on the uses to which it will be put.

Weinberg, p.127

To detect errors, the programmer must have a conniving mind, one that delights in uncovering flaws where beauty and perfection were once thought to lie.

Weinberg, p.136

For locating errors, however, we want a person who has the persistence of a mother-in-law and the collecting instincts of a pack rat.

Weinberg, p.136

If the poor workman hates his tools, the good workman hates poor tools. The work of the workingman is, in a sense, defined by his tools.

Weinberg, p.203

No craftsman, if he aspires to the highest work in his profession, will accept (inferior) tools; and no employer, if he appreciates the quality of work, will ask a craftsman to accept them.

Weinberg, p.204

Another effect (of not having a spoken form) is the difficulty with which we can talk about a programming language without a blackboard or pencil and paper. Every programming office should have a blackboard, chalk, and many erasers.

Weinberg, p.207

'Programming' – like 'loving' – is a single word that encompasses an infinitude of activities.

Weinberg, p.121

The important thing is not to stop questioning. Curiosity has its own reason for existing.

Albert Einstein

Programming shares with prayer the feature of directional transmission and broadcast reception.

Weinberg, p.207

... in some terminal systems ... the user can keep his program from being pushed down in the priority stack by fiddling with the shift key while he is thinking.

Weinberg, p.209

The expert is a person who avoids the small errors as he sweeps on to the grand fallacy.

Anonymous

The nature of programming being what it is, there is no relationship between the 'size' of the error and the problems it causes.

Weinberg, p.247

When a programmer has a difficult time finding a bug, it is because he is looking in the wrong place.

Weinberg, p.251

Documentation is the castor oil of programming ... the managers know it must be good because programmers hate it so much.

Weinberg, p.262

The human mind ordinarily operates at only ten per cent of its capacity – the rest is overhead for the operating system.

Anonymous

We stand at the brink of a new age, an age made possible by the revolution that is embodied in the computer. Standing on the brink, we could totter either way – to a golden age of liberty or a dark age of tyranny, either of which would surpass anything the world has ever known. Perhaps no individual's efforts will make any difference in the result, but we must never cease trying, for then the result is sure to be tyranny.

Weinberg, p.279

... (OS/360) was late, it took more memory than planned, the costs were several times the estimate, and it did not perform very well until several releases after the first.

*The Mythical Man-Month,
Frederick Brooks, p. viii*

A ship on the beach is a lighthouse to the sea.

Dutch proverb

Everyone seems to have been surprised by the stickiness of the problem, and it is hard to discern the nature of it.

Brooks, p.4

The programmed computer has all the fascination of the pinball machine or the jukebox mechanism, carried to the ultimate.

Brooks, p.7

The programmer, like the poet, works only slightly removed from pure thought-stuff.

Brooks, p.7

One types the correct incantation on a keyboard, and a display screen comes to life, showing things that never were nor could be . . . (however) if one character, one pause, of the incantation is not strictly in proper form, the magic doesn't work.

Brooks, p.8

. . . one's authority is not sufficient for his responsibility.

Brooks, p.8

. . . designing grand concepts is fun; finding nitty little bugs is just work.

Brooks, p.8

As soon as one freezes a design, it becomes obsolete in terms of its concepts.

Brooks, p.9

Good cooking takes time. If you are made to wait, it is to serve you better, and to please you.

Menu of Restaurant Antoine, New Orleans

All programmers are optimists.

Brooks, p.14

This time it will surely run.

Anonymous

I just found the last bug.

Unanimous

A large programming effort . . . consists of many tasks, some chained end-to-end. The probability that each will go well becomes vanishingly small.

Brooks, p.16

Cost does indeed vary as the product of the number of men and the number of months. Progress does not. Hence the man-month as a unit for measuring the size of a job is a dangerous and deceptive myth.

Brooks, p.16

The bearing of a child takes nine months, no matter how many women are assigned.

Brooks, p.17

When everything has been seen to work, all integrated, you have four more months work to do.

Charles Portman

International Computers Limited

Observe that for the programmer, as for the chef, the urgency of the patron may govern the scheduled completion of the task, but it cannot govern the actual completion.

Brooks, p.21

. . . when (the omelette) has not set in two minutes, the customer has two choices – wait or eat it raw.

Brooks, p.21

Brooks Law: Adding manpower to a late software project makes it later.

Brooks, p.25

. . . the sheer number of minds to be coordinated affects the cost of the effort.

Brooks, p.30

. . . conceptual integrity is the most important consideration in system design.

Brooks, p.42

The purpose of a programming system is to make a computer easy to use.

Brooks, p.43

Neither function alone nor simplicity alone defines a good design. *Brooks, p.43*

Add little to little and there will be a big pile. *Ovid*

He'll sit here and he'll say, 'Do this! Do that!' And nothing will happen. *Harry S. Truman*

Never go to sea with two chronometers; take one or three. *Anonymous*

I know it. I know what needs to be done – but every time I try to tackle a technical problem some bloody fool wants me to make a decision about trucks – or telephones – or some damn thing. *Robert Heinlein*

The Man Who Sold the Moon

The problem was that everybody who was working there, including myself, wanted to do really neat stuff but they didn't want neat stuff, they just wanted a lot of stuff fast.

Rick Baker,
make-up artist for King Kong, Star Wars, et. al.

The generation of random numbers is too important to be left to chance. *Robert R. Coveyou*
Oak Ridge National Laboratory

It's redundant! It's redundant! *R. E. Dumdant*

I don't know any reason why we couldn't do it, but maybe we can think of one. *Mark C. Davison*

Bug? That's not a bug, that's a feature. *T. John Wendel*

The computer 'Doth make fools of us all'. *Weinberg, p.152*

Any fool without the ability to share a laugh on himself will be unable to tolerate programming for long. *Weinberg, p.152*

The programmer's national anthem is 'aaaaaaaahhhhhhhh'. *Weinberg, p.152*

When we finally see the light, we see how once again we have fallen into some foolish assumption, some oafish practice, or some witless blunder. *Weinberg, p.152*

The computer always has an excuse: the programmer never does. *Mark C. Davison*

The user does not know what he wants until he sees what he gets. *Ed Yourdon*

We tend to blame the physical media for most of our implementation difficulties; for the media are not 'ours' in the way ideas are, and our pride colours our judgement. *Anonymous*

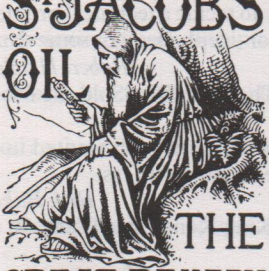
Completely compatible – things that work together with less than \$1000 of interfaces and less than 100 man-hours of software patches. *Datamazing, 4/1/78*

Stack manipulation – the use of inflatable falsies. *Datamazing, 4/1/78*

Design of both hardware and software must be considered when doing the system design.
Proceedings of the IEEE, 2/78, p.167

The job cannot be done right unless the necessary tools are available.
Proceedings of the IEEE, 2/78, p.174

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I hear and I forget. I see and I remember. I do and I understand.
Confucius

On a clear disk you can seek forever.
Computerworld button

I write all my critical routines in assembler, and my comedy routines in FORTRAN.
Anonymous

It is impossible to make anything foolproof because fools are so ingenious.
Edsel Murphy, dec.

It seems intuitively clear that the existence of an error in a program will not be reflected in the test result unless the program component in error is executed during the test. *J.C. Huang, 'Program Instrumentation and Software Testing', Computer, Volume II Number 4*

If debugging is the process of removing bugs, then programming must be the process of putting them in.
Dijkstra

Are you at the point where you don't have the time to find solutions to the problems that are taking up all your time?
Mark C. Davison

The Software Library

Sig/M User Group Volumes

SIG/M Volume 224 Small C Compiler with Floating Point (Z80)

-CATALOG.224 contents of SIG/M Volume 224
released April 19, 1985

JOIN .ACG Amateur Computer Group Application Form
SIG-M .LIB donation form
CRC .COM checksum program
USQ .COM unsqueezes squeezed files

index	name	size	crc	description
224.01	CC .CQM	23K	CF 1F	Z80 Small C compiler with
224.02	CC .DQC	10K	8C 57	floating point math
224.03	C80V .CQ	27K	48 39	"
224.04	C80V-2 .CQ	21K	EB BC	"
224.05	ARGS .CQ	3K	47 7F	I/O direction and command
224.06	ARGS .DQC	2K	24 BC	line parsing
224.07	ARGS .H	1K	3E 33	"
224.08	ARGS .OQJ	3K	40 4E	"
224.09	CLIBV .OBJ	4K	C9 EB	alternate math & I/O library
224.10	FLOAT .CQ	15K	C9 EE	floating point routines
224.11	FLOAT .DQC	3K	04 D9	"
224.12	FLOAT .H	1K	21 05	"
224.13	FLOAT .OBJ	3K	95 62	"
224.14	IOLIB .CQ	11K	FA 82	integer math and I/O
224.15	IOLIB .DQC	3K	D1 C8	"
224.16	IOLIB .H	1K	0E 62	"
224.17	IOLIB .OQJ	6K	1E 5E	"
224.18	PRINTF .DQC	3K	66 D2	formatted I/O
224.19	PRINTF1 .CQ	3K	70 E9	"
224.20	PRINTF1 .H	1K	31 61	"
224.21	PRINTF1 .OQJ	6K	6D D9	"
224.22	PRINTF2 .CQ	6K	63 1F	"
224.23	PRINTF2 .H	1K	AB C9	"
224.24	PRINTF2 .OQJ	11K	B5 AF	"
224.25	PROFILE .AQM	3K	FB FB	execution profile and walkback
224.26	PROFILE .DQC	2K	A6 03	"
224.27	PROFILE .H	1K	E1 03	"
224.28	PROFILE .OBJ	1K	86 0A	"
224.29	TEST .CQ	3K	E1 62	sample program
224.30	TRANSCEN .CQ	7K	9A 8C	transcendental functions
224.31	TRANSCEN .DQC	2K	A9 B2	"
224.32	TRANSCEN .H	1K	BF 0F	"
224.33	TRANSCEN .OBJ	5K	54 EB	"
224.34	ZLINK .CQM	6K	E1 17	linkage editor
224.35	ZLINK .DQC	2K	64 8A	"
224.36	ZMAC .CQM	10K	08 83	assembler (relocatable output)
224.37	ZMAC .DQC	7K	BB 71	"

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-CATALOG.225 contents of SIG/M Volume 225 & Simulation
released April 19, 1985

JOIN .ACG Amateur Computer Group Application Form
SIG-M .LIB donation form
CRC .COM checksum program
DELBR .COM to extract .LBR files type DELBR filename

index	name	size	crc	description
225.01	FX .COM	5K	14 32	allows second character set
225.02	FXDRV .COM	2K	B2 B0	with Wordstar and FX-80 printer.
225.03	FXDRV .DOC	23K	45 D6	"
225.04	FXDRV .MAC	24K	8E 81	"
225.05	ALTER .FON	4K	20 FB	scientific font for MX-80
225.06	SIMULA .LBR	131K	3C 94	biochemical eng. games & simulation

SIG-M Library -CATALOG Volume Number-225, 06 Files catalogued.

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-CATALOG.226 contents of SIG/M Volume 226
released April 19, 1985

JOIN .ACG Amateur Computer Group Application Form
SIG-M .LIB donation form
CRC .COM checksum program

index	name	size	crc	description
226.01	BACKMW .DOC	10K	74 F2	hard disk backup for Morrow M16
226.02	BACKMW27.COM	7K	E5 DC	"
226.03	BACKMW27.MAC	15K	87 A1	"
226.04	BAUDRATE.ASM	4K	39 5C	sets I/F 4 & TVI 950 baud
226.05	COLONS .DOC	3K	19 C1	add/delete colons to ASM
226.06	COLONS12.COM	4K	B2 FA	source file where needed
226.07	COLONS12.UPD	1K	A3 72	"
226.08	DATE .ASM	3K	EA 82	convert DRI date to MM/DD/YY
226.09	UPDATE .ASM	3K	74 25	and MM-DD-YY to DRI format
226.10	DRI-DATE.DOC	5K	20 D3	"
226.11	DELETE .COM	2K	BD A3	ERA utility
226.12	DELETE .MAC	6K	3E 4E	"
226.13	DUMPDIR .COM	2K	ED 7D	directory dump with file
226.14	DUMPDIR .DOC	3K	DB BE	allocation display
226.15	DUMPDIR .MAC	5K	4B 87	"
226.16	E5 .A86	2K	E4 E8	fills CP/M 86 disk with E5s
226.17	FINDU10 .DOC	4K	42 56	string find utility for
226.18	FINDU11 .COM	4K	85 66	squeezed and unsqueezed files
226.19	FINDU11 .MAC	4K	42 49	"
226.20	FREESP .MAC	2K	A1 3C	module to calculate disk space
226.21	HEXDEC .A86	1K	7F 2C	hex to decimal module for CP/M
226.22	HEXDEC .ASM	1K	F9 C6	80 and 86
226.23	HXDC24 .MAC	3K	5C 8A	"
226.24	HXDC24 .REL	1K	92 3B	"
226.25	LCHEK .DOC	1K	FD 70	library CRC program in CHEK and
226.26	LCHEK11 .COM	2K	F6 AA	CRC compatible formats
226.27	LCRC11 .COM	2K	78 BC	"
226.28	LCRC11 .DOC	2K	A5 29	"
226.29	LCRC11 .MAC	7K	07 7B	"
226.30	LDIR22 .COM	3K	89 30	library directory with version for
226.31	LDIR22 .DOC	2K	25 3E	original filenames of squeezed
226.32	LDIR22 .MAC	10K	57 E3	member files and filematch utility
226.33	LDIRR .ASM	7K	FA E3	"
226.34	LDIRR .COM	2K	8E F2	"
226.35	MATCHF .REL	1K	76 B2	"
226.36	MYSORT .REL	1K	9D DB	"
226.37	NCRCK1 .COM	2K	40 B1	new CRC program

226.38	NCRCK1	.DOC	2K	F2 50	"
226.39	NCRCK1	.MAC	5K	3C 06	"
226.40	PRUN12	.COM	2K	57 DE	runs PRL files under CP/M
226.41	PRUN12	.DOC	4K	70 13	"
226.42	PRUN12	.MAC	9K	37 64	"
226.43	SETBAUD2	.ASM	5K	B6 57	sets baud rate for I/F 4
226.44	SETBAUD2	.COM	2K	9B 92	"
226.45	SORT	.ASM	3K	AB 10	Shell-Metzner in-memory sort
226.46	TESTHXD	.MAC	1K	FA 6A	tests HXDC24
226.47	TIMEDF4	.ASM	3K	B0 E7	elapsed time calculator
226.48	TIMEDIF	.ASM	5K	CA 91	"
226.49	TYPEL36	.COM	4K	0D E9	super type program, squeezed and
226.50	TYPEL36	.DOC	4K	39 6F	unsqueezed, in library, to printer,
226.51	TYPEL36	.MAC	15K	66 13	etc.
226.52	UNSQZ13	.COM	4K	05 3C	super unsqueezer
226.53	UNSQZ13	.DOC	2K	9D 59	"
226.54	UNSQZ13	.MAC	9K	D7 C8	"
226.55	USQB	.REL	2K	0D E0	"
226.56	WILDEX	.A86	1K	97 AB	wildcard expansion routine for
226.57	WILDEX	.MAC	2K	B4 57	both ASM86/RASM86 and RMAC/M80
226.58	WILDEX	.REL	1K	8F 60	"

SIG-M Library -CATALOG Volume Number-226, 58 Files catalogued.

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SIG/M Volume 227 CHECKS, CHURCH MANAGEMENT and GENEALOGY dBASEIII Programs from the Capital Osborne UG

-CATALOG.227 contents of SIG/M Volume 227
released April 5, 1985

ABSTRACT.227 information about this disk
JOIN .ACG Amateur Computer Group Application Form
SIG-M .LIB donation form
CRC .COM checksum program
USQ .COM unsqueezes squeezed files
DELBR .COM to extract library files type DELBR library

index	name	size	crc	description
227.01	CHECKS .LBR	60K	45 AA	checkbook program in dBASEIII
227.02	CHURCH .LBR	60K	F6 98	church Management program in dBASEIII
227.03	GENEOLGY.LBR	75K	B0 A0	genealogy program in dBASEIII

SIG-M Library -CATALOG Volume Number-227, 03 Files catalogued.

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SIG/M Volume 228 Disk Editor, Updated Footnote Program, Maze Game and Miscellaneous Z-80 and 8080 Programs

-CATALOG.228 contents of SIG/M Volume 228
released May 17, 1985

JOIN .ACG Amateur Computer Group Application Form
SIG-M .LIB donation form
CRC .COM checksum program
USQ .COM unsqueezes squeezed files
DELBR .COM to extract library files type DELBR library

index	name	size	crc	description
228.01	APPEND .C	2K	AD 5D	concatenates two files into one
228.02	APPEND .COM	4K	F3 8A	without disturbing original files
228.03	CFLOLIB .C80	1K	94 FA	takes C code and creates a listing
228.04	CFLOW .C	6K	68 79	of the module calls in the source
228.05	CFLOW .COM	6K	34 17	"
228.06	CFLOW .DOC	3K	2B D7	"
228.07	CFLOW .FLO	2K	11 B1	"

228.08	EDFILE	.ART	12K	AF 79	Z80 screen oriented disk editor
228.09	EDFILE	.COM	11K	FO A7	"
228.10	EDFILE	.DOC	20K	C2 18	"
228.11	FTNOTE14.	DOC	17K	F3 66	update to footnote program for
228.12	FTNOTE14.	DOC	26K	08 9D	Wordstar
228.13	GRAB	.AQM	16K	EC 8B	improvement to FIND which pulls out
228.14	GRAB	.COM	4K	1E 65	paragraphs of information - CP/M 80
228.15	GRAB	.DOC	2K	FD 9E	version.
228.16	LIST	.C	2K	1C D4	multiple file list program
228.17	LIST	.COM	3K	B5 50	"
228.18	MCHASE	.COM	22K	5A 0D	arcade style maze chase game
228.19	MCHASE	.DOC	7K	2F EF	"
228.20	MCHASE	.HLP	3K	0A 7D	"
228.21	MODES	.C	3K	32 DD	MX-80 setting program
228.22	MODES	.COM	4K	B6 33	"
228.23	PASSWORD.ASM		6K	46 71	requires password to use disk
228.24	PASSWORD.COM		1K	23 F3	"
228.25	PASSWORD.DOC		6K	2B 84	"
228.26	SPLIT	.C	3K	FE ED	splits larger file into smaller
228.27	SPLIT	.COM	5K	7E F9	ones

SIG-M Library -CATALOG Volume Number-228, 27 Files catalogued.

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SIG/M Volume 229 CP/M 86 and NEC CP/M 86 Programs

-CATALOG.229 contents of SIG/M Volume 229
released May 17, 1985

CRC	.COM	checksum program
CRC	.CMD	checksum program
USQ	.CMD	unsqueezes squeezed files
LU86	.CMD	CP/M 86 Library utility

index	name	size	crc	description
229.01	APC-CALN.LBR	20K	7A E4	prints calendars - APC & MX printer
229.02	APC-DATE.LBR	19K	36 3B	screens calendars on APC
229.03	APCSERIO.LBR	16K	75 C3	interrupt driven I/O for APC
229.04	BYTYPE86.LBR	21K	44 5E	DIR sort by types to con, lst or disk
229.05	FASTVF86.LBR	83K	23 D1	cleaner, faster VFILER. CRC optional
229.06	FRAG86 .LBR	10K	7D 22	file-ext cleaner, faster, sorts by files
229.07	GRAB86 .LBR	24K	87 CD	finds paragraphs
229.08	SAVE0-86.LBR	8K	3D 3A	emulates CP/M 2.2 SAVE 0 command
229.09	WC86 .LBR	9K	82 CD	word count, text & WS files to 8 digits

SIG-M Library -CATALOG Volume Number-229, 09 Files catalogued.

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SIG/M Volume 230 dBaseII Databases for Scholars Articles, Books and Reference Material Databases

-CATALOG.230 contents of SIG/M Volume 230
released May 17, 1985

CRC	.COM	checksum program
USQ	.COM	unsqueezes squeezed files
DELBR	.COM	to extract library files type DELBR library

For CP/M 86 - use USQ.CMD and LU86 in the SIG/M Library
(including on Vol. 229) to extract libraries and unsqueeze.

index	name	size	crc	description
230.01	BOOKS .LBR	71K	89 18	database for reference books
230.02	RETRIEVE.LBR	64K	F3 8B	article retrieval database
230.03	REFERENC.LBR	82K	B3 79	reference material database

SIG-M Library -CATALOG Volume Number-230, 03 Files catalogued.

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SIG/M Volume 231 Excerpts from the New Micro/Systems

Journal

-CATALOG.231 contents of SIG/M Volume 231
released July 19, 1985

JOIN .ACG Amateur Computer Group Application Form
SIG-M .LIB donation form
CRC .COM checksum program - type CRC to test this disk
DELBR .COM to remove files from .LBR type DELBR filename

index	name	size	crc	description
231.01	CP-M+ .LBR	100K	F4 56	Bringing up CP/M-Plus
231.02	DISK1C .LBR	36K	8A EE	C & the Godbout Disk-1 Controller
231.03	EXTEND .LBR	11K	80 8F	Assembly Language Extensions for MS BASIC
231.04	NAMES .LBR	66K	19 C5	Logical Name Translator for CP/M 2.2

SIG-M Library -CATALOG Volume Number-231, 04 Files catalogued.

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SIG/M Volume 232 Kermit 3.9 for CP-M-80, Z80 translator Abstracts from Software Tools of Australia Vol. 68

-CATALOG.232 contents of SIG/M Volume 232
released July 19, 1985

CRC .COM checksum program
USQ .COM unsqueezes squeezed files
DELBR .COM to remove files from .LBR type DELBR library name

index	name	size	crc	description
232.01	BBCBIOS .MQC	10K	20 01	Modified Ferguson Big Board 1 BIOS
232.02	KERMIT .VER	5K	F9 E7	KERMIT communications version list
232.03	KRMSRC .LBR	121K	FD B9	KERMIT version 3.9 for CP/M-80
232.04	M7BBS+ .AQM	49K	69 60	Modem 7 for Ferguson Big Board 1
232.05	XLATE216.LBR	32K	6A D0	Updated XLATE 8080 to Z80 source translator

SIG-M Library -CATALOG Volume Number-232, 05 Files catalogued.

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SIG/M Volume 233 Miscellaneous CP-M-80 Utilities Abstracts from Software Tools of Australia Vol. 69

-CATALOG.233 contents of SIG/M Volume 233
released July 19, 1985

CRC .COM checksum program
USQ .COM unsqueezes squeezed files
DELBR .COM to remove files from .LBR type DELBR library name

index	name	size	crc	description
233.01	BOY-MOR .LBR	18K	2D A4	Z80 Boyer-More string search function
233.02	CLEANUPC.LBR	26K	72 06	Cleans up C source, makes cross listing
233.03	DISKNAME.LBR	12K	B8 06	Gives 45 character volume name on CP/M disk
233.04	MODEM7B .LBR	43K	58 FD	MODEM7A modified for LST device output

233.05	PMATCH .LBR	24K	10 1C	Checks print command pairing for WordStar
233.06	SDDIRENT.LBR	61K	AF A2	Updated SD77, more information displayed
233.07	UDM1200 .DQC	2K	07 66	Using Modem Tech UDM1200 at 1200/75 bps
233.08	UDMAUTOD.BAS	5K	43 EA	BASIC auto dialer for Modem Tech UDM1200
233.09	VDUPRNT .LBR	14K	AF 35	Screen dump Microbee to Tandy DMP 200
233.10	XPRINT .CQ	7K	B4 70	Extended print utility in C

SIG-M Library -CATALOG Volume Number-233, 10 Files catalogued.

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SIG/M Volume 234 CP-M Plus and Other Utilities, Curve Fitting Includes Librarianed UK Users Group Volume 16 (Software Tools of Australia Volume 70)

-CATALOG.234 contents of SIG/M Volume 234
released July 19, 1985

JOIN	.ACG	Amateur Computer Group Application Form
SIG-M	.LIB	donation form
CRC	.COM	checksum program
USQ	.COM	unsqueezes squeezed files
DELBR	.COM	to remove files from .LBR type DELBR library file

index	name	size	crc	description
234.01	AUTO .LBR	4K	9E DF	Auto execute program on cold boot
234.02	CPM3UTIL.LBR	19K	51 36	Disk and other utilities for CP/M Plus
234.03	CUBE .LBR	10K	40 57	Solves 5 x 5 cube
234.04	CURVFIT .LBR	38K	24 CD	Curve fitting in MBASIC
234.05	DISKSTAT.LBR	35K	FB EA	Display disk info and file allocation
234.06	DUMP .LBR	7K	FA 5D	Improved file dump utility
234.07	SBCOPY .LBR	11K	19 46	Fast copy utility for SuperBrain
234.08	SPZ .LBR	57K	75 46	Full screen disk utility SuperBrain version
234.09	SYM .LBR	8K	95 17	Make SID symbol table from MACRO-80 listing

SIG-M Library -CATALOG Volume Number-234, 09 Files catalogued.

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SIG/M Volume 235 BASICODE Radio Communications (in Dutch) Netherlands Enhancements to FIG FORTH Software Tools of Australiz Volume 72

-CATALOG.235 contents of SIG/M Volume 235
released July 19, 1985

JOIN	.ACG	Amateur Computer Group Application Form
SIG-M	.LIB	donation form
CRC	.COM	checksum program
DELBR	.COM	to remove files from .LBR type DBLBR library name
USQ	.COM	unsqueeze squeezed files - type USQ *.*

index	name	size	crc	description
235.01	ABSTRACT.235	2K	29 B6	Abstract of disk contents (in Dutch)
235.02	BASICODE.DOC	16K	B7 AC	Documentation on BASICODE (in Dutch)
235.03	BASICODE.ENG	3K	B4 A7	Brief intro to BASICODE (in English)
235.04	BC2 .BQS	2K	27 C8	"Standard" BASICODE-2 for MBASIC
235.05	BC2 .OSB	2K	2B 1D	"Osborne" BASICODE-1 for Osborne 1
235.06	BC2 .OSI	2K	D8 69	"Ohio Scientific" BASICODE-2
235.07	BCREAD .AQM	8K	75 A2	Read BASICODE-2 in from parallel port
235.08	BCTEST .AQM	4K	77 7C	Test program for BASICODE-2 port transfer
235.09	BCWRIT .AQM	8K	E7 4E	Write out BASICODE-2 program, standard
235.10	BCWRITE .AQM	8K	87 D9	Write out BASICODE program, (BASICODE-1?)
235.11	BOKA&EI .BQS	6K	77 2E	BASICODE-2 Tic Tac Toe, in Dutch
235.12	CONVERT .BQS	4K	FE 82	CBASIC source for BASICODE-2/MBASIC xlate
235.13	CONVERT .COM	13K	67 B5	Converts from BASICODE-2 to Microsoft BASIC
235.14	DELERS .BQS	10K	A9 BE	BASICODE-2 game of some sort, in Dutch
235.15	DIGIKLOK.BQS	4K	82 2F	BASICODE-2 on screen digital clock

235.16	FEESTEN .BQS	4K	9D 98	BASICODE-2 shows public holidays, any year
235.17	FORTH-NL.LBR	49K	A3 D1	FIG FORTH 1.1 with enhancements for CP/M
235.18	FUNCTION.DAT	1K	29 3F	Used with CONVERT.COM
235.19	KALFEEST.BQS	6K	9E A3	BASICODE-2 calendar for any month & year
235.20	KEYWORDS.DAT	1K	88 69	Used with CONVERT.COM
235.21	MASSA .BQS	4K	76 3E	BASICODE-2 demo program, in Dutch
235.22	SORT .BQS	6K	68 2E	BASICODE-2 sort program, in Dutch
235.23	STELSELS.BAS	4K	64 EE	BASICODE-2 solves 3 order quadratics ?
235.24	TANKIE .BQS	6K	00 9B	BASICODE-2 game, simple ASCII graphics
235.25	TESTBC2 .BQS	4K	F4 46	BASICODE-2 test/exerciser program
235.26	TIMER555.BQS	6K	B4 CA	BASICODE-2 designs 555 timer circuits
235.27	UITLEG1 .BQS	6K	6E 8E	Introduction to BASICODE-2 (in Dutch)
235.28	UITLEG2 .BQS	8K	22 83	See UITLEG1.BAS

SIG-M Library - Catalog Volume-235, 28 Files catalogued.

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SIG/M Volume 236 CP-M3 Bios for Disk-Jockey Controller Updated Lisp in Pascal/Z

-CATALOG.236 contents of SIG/M Volume 236
released July 19, 1985

JOIN	.ACG	Amateur Computer Group Application Form
SIG-M	.LIB	donation form
CRC	.COM	checksum program
USQ	.COM	unsqueezes squeezed files

index	name	size	crc	description
236.01	CPM3BIOS.DQC	10K	B9 08	CP-M3 bios for Morrow Disk Jockey - Doc.
236.02	SCB .ASM	3K	E0 84	Bios routines
236.03	MOVE .MAC	6K	A8 EE	"
236.04	CHARIO .MQC	8K	FA 21	"
236.05	DISKDEFN.ASM	3K	4A 1A	"
236.06	DISKHNDL.MQC	8K	70 D6	"
236.07	SEMIHNDL.MAC	6K	20 0A	"
236.08	BOOT .MAC	5K	F7 10	"
236.09	GENCPM .DAT	3K	A5 9F	Sample data for GENCPM
236.10	DDLDR .ASM	2K	3D 1D	Loader bios routines
236.11	LDRBIOS .MAC	7K	0D 48	"
236.12	LOADSYS .MAC	11K	BD F8	Bios routine loader
236.13	REBOOT .MAC	1K	F4 B3	To cold start
236.14	SEESCB .RAT	1K	F5 43	Print the SCB
236.15	ACCSCB .MAC	1K	5D 68	"
236.16	SEESCB .COM	7K	2E 54	"
236.17	BARB2 .MAC	8K	68 74	Memory check
236.18	IF .COM	1K	48 33	Conditional execution
236.19	IF .MAC	3K	18 F8	"
236.20	OVLNMR .MAC	7K	5C 5B	Overlay manager
236.21	PRINT .COM	2K	01 18	Spooling printer
236.22	PRINT .MQC	6K	3B 84	"
236.23	CPMPLUS .TQX	25K	A3 9B	Article on CP-M Plus
236.24	LISP .COM	27K	C6 3B	Lisp in Pascal/Z
236.25	LISP .DOC	14K	65 23	from Vol 27 Pascal/Z
236.26	LISP .PAS	38K	32 A1	Users Group
236.27	INITLISP .	1K	62 14	"
236.28	INITLISP.STB	1K	F9 1E	"

SIG-M Library -CATALOG Volume Number-236, 28 Files catalogued.

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SIG/M Volume 237

Pilot in Pascal/Z Solving Deductive Reasoning Puzzles from the Pascal/Z Users Group

-CATALOG.237 contents of SIG/M Volume 237
released July 19, 1985

CRC .COM checksum program
DELBR .COM to remove files from .LBR type DELBR filename
USQ .COM unsqueezes squeezed files

index	name	size	crc	description
237.01	PILOT-P	.LBR	174K F7 4A	Pilot in Pascal/Z
237.02	PUZZLE	.LBR	39K 70 1D	Helps solve deductive reasoning puzzles

SIG-M Library -CATALOG Volume Number-237, 02 Files catalogued.

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SIG/M Volume 238 CCITT X.25 Packet Standard (all 3 levels) by Ed Elizondo

-CATALOG.238 contents of SIG/M Volume 238
released August 16, 1985

JOIN .ACG Amateur Computer Group Application Form
SIG-M .LIB donation form
CRC .COM checksum program - type CRC to check disk
USQ .COM unsqueezes squeezed files

index	name	size	crc	description
238.01	BUFFERS	.AQM	17K A3 AD	Full implementation of CCITT X.25
238.02	FILES	.AQM	10K DA 5C	packet standard (all 3 levels) under
238.03	LEVEL1	.AQM	13K 04 80	CP/M-80. Implements a dumb terminal
238.04	LEVEL2	.AQM	29K FC 09	with bi-directional file transfer
238.05	LEVEL3	.AQM	34K F6 1D	capability. Configured for Digital
238.06	PLOG	.AQM	6K 4A 0D	Research Big Board (uses \$10 on BB
238.07	X25	.AQM	19K 70 29	to handle HDLC bit stuffing and
238.08	X25	.CQM	15K 5E 3B	polynomial check). Extensive diag-
238.09	X25	.MSG	2K E9 32	nostic facilities built in. Full
238.10	X25SYS	.DQC	16K 5B 24	User manual.
238.11	X25UM	.DQC	43K 72 28	"
238.12	XUTIL	.AQM	8K 6A 2E	"

SIG-M Library -CATALOG Volume Number-238, 12 Files catalogued.

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SIG/M Volume 239

Z8E Z80 Debug Monitor by Rick Surwild

-CATALOG.239 contents of SIG/M Volume 239
released August 16, 1985

JOIN .ACG Amateur Computer Group Application Form
SIG-M .LIB donation form
CRC .COM checksum program - type CRC to check disk
USQ .COM unsqueezes squeezed files

index	name	size	crc	description
239.01	Z8E	.CQM	11K 10 B1	Symbolic Z80 debugger. Full screen
239.02	Z8E	.DQC	101K 54 16	animated display of program under
239.03	Z8E	.MQC	111K AF 5B	test, built in assembler, 16 break-
239.04	Z8E	.SYM	1K FD 25	points, 20 + commands. Full doc file.

SIG-M Library -CATALOG Volume Number-239, 04 Files catalogued.

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SIG/M Volume 240

Extracts from UK CPMUG - Volumes 21 & 23 BASIC (Z80) Bulletin Board

-CATALOG.240 contents of SIG/M Volume 240
released August 16, 1985

CRC .COM checksum program - type CRC to check disk
USQ .COM unsqueezes squeezed files
DELBRA .COM to remove files from .LBR type DELBRA filename

index	name	size	crc	description
240.01	ASM65 .DOC	23K	1A 3F	converts ASM.COM to 6502
240.02	ASM65 .HEX	17K	B3 A1	cross assembler
240.03	BACKUP .COM	5K	97 40	Winchester backup program (Z80)
240.04	BACKUP .DOC	5K	53 C4	"
240.05	BACKUP .MAC	24K	F5 27	"
240.06	ECCE .DOC	27K	8F 43	Edinburgh Compatible Context Editor
240.07	ECCE48K .COM	17K	54 7B	line oriented editor with macro
240.08	ECCE56K .COM	17K	E6 8D	capability and conditional commands
240.09	ECCE60K .COM	17K	F4 41	"
240.10	ACK .DOC	1K	C2 E7	"
240.11	ZBBS .LBR	57K	DB C0	BASIC BBS (Z80) system

SIG-M Library -CATALOG Volume Number-240, 11 Files catalogued.

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SIG/M Volume 241

Updated XMODEM, MEX with Revised XMODEM Protocol Turbo Pascal Bulletin Board

-CATALOG.241 contents of SIG/M Volume 241
released August 16, 1985

JOIN .ACG Amateur Computer Group Application Form
SIG-M .LIB donation form
CRC .COM checksum program - type CRC to check disk
USQ .COM unsqueezes squeezed files
DELBRA .COM to remove files from .LBR type DELBRA filename

index	name	size	crc	description
241.01	MEX114 .LBR	37K	07 5F	Update to XMODEM and MEX using new 1024
241.02	XMODM110.LBR	89K	C9 46	protocol for faster transfer.
241.03	TURBOBBS.LBR	74K	3C 2C	Turbo Pascal BBS system

SIG-M Library -CATALOG Volume Number-241, 03 Files catalogued.

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UK User Group Volumes

UK Users Group Volume 26

DESCRIPTION: Miscellaneous

NUMBER	SIZE	NAME	COMMENTS
26.1	10K	-CATALOG.26- CHARSET.COM	CONTENTS OF UK VOL. 26 Set characters on Gemini/Nascom with Super Video Board
26.2	2K	CHARSET.DOC	"
26.3	3K	CHARSET.PAS	"
26.4	10K	CPM2CPM.ASM	Updated DEDUMP
26.5	2K	CPM2CPM.COM	"
26.6	3K	CSET.COM	Loader for CHARSET
26.7	3K	CSET1.COM	Alternative character sets for CHARSET
26.8	3K	CSET2.COM	"
26.9	3K	CSET3.COM	"
26.10	7K	DU3.COM	Disk Utility for CP/M 3
26.11	50K	DU3.MAC	"
26.12	22K	ICLLINK.ASM	PLINK II terminal and file transfer program with conditional assembly for ICL 2900
26.13	2K	ICLLINK.COM	"
26.14	5K	ICLLINK.DOC	"
26.15	26K	MON1.ASM	68000 monitor program
26.16	17K	SEARCH.COM	Flexible file search program
26.17	7K	SEARCH.DOC	"
26.18	4K	SEARCH.LOG	"
26.19	18K	SEARCH.PAS	"
26.20	2K	SHOW.C	Updated file viewer program
26.21	13K	SHOW.COM	"
26.22	5K	SWOP3.BAS	Read/write SuperBrain disks on Kaypro
26.23	8K	SWOP3.COM	"

Dutch User Group Volumes

VOLUME 515

DESCRIPTION: MBASIC prog in ASCII

NUMBER	SIZE	NAME	COMMENTS
		CATALOG.515	CONTENTS OF CP/M VOL. 515
		ABSTRACT.515	korte beschrijving programma's
515.1	1K	KASSA.ASC	Kassa prog voor exidy
515.2	14K	KASSA.DOC	Doc file kassa prog
515.3	18K	KASSADOC.ASC	Idem KASSA.DOC echter in basic
515.4	3K	DATUM.ASC	Datum kassa
515.5	2K	MENU.ASC	Menu kassa
515.6	5K	INVOERIN.ASC	Inkomsten invoer
515.7	6K	INVOERUI.ASC	Uitgave invoer
515.8	2K	PRINT.ASC	Sub menu voor printer
515.9	2K	BOEKM.ASC	Drukt rebriecken af met eindbedragen
515.10	2K	UITGRUBR.ASC	Drukt uitgaven/inkomsten af
515.11	3K	BOEKVOOR.ASC	overzicht uitgave lopende maand
515.12	3K	BOEKPLAN.ASC	uitgave/maand /plan display
515.13	3K	PLANTOT.ASC	totaal overzicht tot heden
515.14	2K	VERAPLAN.ASC	Veranderen planning
515.15	2K	AFLUIT.ASC	afsluiten maand
515.16	4K	VERARUBR.ASC	Veranderen rebriecken
515.17	2K	EIND.ASC	Maken backup
515.18	6K	HELP.ASC	Help prog
515.19	1K	DAT.	file van KASSA
515.20	1K	HLP.	"
515.21	1K	HULP	"
515.22	1K	INKOMST.	"
515.23	1K	INKSPE.	"
515.24	1K	PRNT.	"

515.25	1K	RUBRIEK.	"
515.26	1K	PLANRUBR.	"
515.27	1K	Kled.	"
515.28	1K	Water	"
515.29	1K	Gas.	"
515.30	1K	Leve.	"
515.31	30K	DL.ASC	Download char set in Epson FX-80/Star printer
515.32	34K	DL.COM	Com version
515.33	8K	DL.DOC	Doc file
515.34	13K	DLEPSON.HLP	Help file for epson
515.35	12K	DLSTAR.HLP	Help file for star printer
515.36	2K	GETFCB.MAC	Driver rout voor DL in machine taal
515.37	1K	GETFCB.REL	Link file hiervan
515.38	1K	DIVERS.DLE	Data file voor DL
515.39	1K	GRIEKS.DLE	"
515.40	1K	GRIEKS.DLS	"
515.41	2K	WISK.DLE	"
515.42	2K	ALLES.DLE	"
515.43	5K	LEVEN.ASC	Leeftijd verwachting prog
515.44	3K	RADEN.ASC	Raden van ingebrachte woorden
515.45	1K	RENTE.ASC	Rente berekening
515.46	6K	STRESS.ASC	Test voor stress gevoeligheid
515.47	7K	BEURS.ASC	Spel handel in aandelen

VOLUME 516

DESCRIPTION: MBASIC programs

NUMBER	SIZE	NAME	COMMENTS
		CATALOG.516	CONTENTS OF CP/M VOL. 516
		ABSTRACTS.516	Korte beschrijving programma's
516.1	9K	MAROB.ASC	Laden asm. prog onder MBASIC
516.2	8K	MAR2.ASC	Variatie op 516.1
516.3	5K	TR.ASC	Patienten registratie
516.4	20K	TRIO.ASC	"
516.5	3K	TRIOTEL.DOC	"
516.6	4K	KAL84.ASC	Kalender prog
516.7	1K	START.ASC	Autostart van kalender
516.8	1K	DITEERST.AUB	Waarschuwing voor gebruik meccano
516.9	1K	AANPAS.DOC	Aanwijzingen voor prog aanpassing
516.10	14K	MECCADM.ASC	Onderdelen adm voor meccano
516.11	1K	MECCANO.ASC	"
516.12	1K	MECCINFO.DOC	Doc file meccano
516.13	16K	GEARING.ASC	Bereken vertraging factoren tandwielen
516.14	2K	INIT.ASC	Op nul zetten DAT.files !!!!
516.15	1K	DEMOINFO.DOC	Info over demo
516.16	1K	BEVEL.DAT	files voor demo
516.17	1K	COMBI.DAT	"
516.18	1K	GROFTAND.DAT	"
516.19	1K	KETTING.DAT	"
516.20	6K	MARKLIN.DAT	"
516.21	7K	SPECIALS.DAT	"
516.22	24K	STANDARD.DAT	"
516.23	2K	TANDWIEL.DAT	"
516.24	9K	TOELICHT.DOC	Beschrijving meccano toepassing
516.25	8K	GENEALOG.DOC	Toelichting genealogisch prog/bestand
516.26	2K	NAAMLVO1.ASC	Genealogisch programma + bestanden
516.27	5K	PAR+TV01.ASC	"
516.28	6K	PARINPV1.ASC	"
516.29	31K	PARLI.F01	"
516.30	18K	PAROUTV1.ASC	"
516.31	9K	PARUITLG.ASC	"
516.32	6K	MANKEPIS.ASC	Overshot van 504 in Basicode

VOLUME 517

DESCRIPTION: C disk in C80 / BDS =C=

NUMBER	SIZE	NAME	COMMENTS
		CATALOG.517	CONTENTS OF CP/M VOL. 517
		ABSTRACT.517	Korte beschrijving programma's
517.1	5K	2PRINT.C	Print 64 breed 2x op 136 breed
517.2	8K	2PRINT.COM	voor papier besparing en snelheid
517.3	2K	2PRINT.DOC	doc file
			Z80 asm in C80
517.4	1K	ASZ80.ASM	Link file ASZ80
517.5	20K	ASZ80.COM	ASZ80 compiled and linked
517.6	16K	ASZ80.DOC	Doc file
517.7	24K	ASZ80.HLP	Instructions for use
517.8	1K	ASZ80.SUB	Submit file for linking
517.9	3K	ASZ80.TXT	Text file
517.10	3K	CHECKLAB.C	Source files in C80
517.11	9K	DEF.C	"
517.12	3K	DEF.H	"
517.13	3K	ENCO-33.C	"
517.14	2K	ENC45-52.C	"
517.15	3K	ENC53-63.C	"
517.16	4K	ENC55.C	"
517.17	4K	ENC64-80.C	"
517.18	2K	ENCODE.C	"
517.19	2K	ERREXIT.C	"
517.20	3K	GETINCL.C	"
517.21	3K	INITPASS.C	"
517.22	1K	LIBSEL.C	"
517.23	5K	MAIN.C	"
517.24	2K	MAKEOBJF.C	"
517.25	3K	SCANCHAR.C	"
517.26	3K	SCANNUMB.C	"
517.27	3K	SCANSYM.C	"
517.28	3K	SCANVAL.C	"
517.29	3K	SEARCH.C	"
517.30	1K	TEST.1	Testfiles for ASZ80
517.31	1K	TEST.2	"
517.32	1K	TEST.3	"
517.33	2K	TEST.BAD	"
517.34	1K	TEST.COM	"
517.35	5K	TEST.OK	"
517.36	14K	PXMODEM.C	LModem prog voor PX-8 en QX10
517.37	11K	PXMODEM.COM	Com file
517.38	18K	QXMODEM3.C	LModem prog voor CP/M 3.0
517.39	13K	QXMODEM3.COM	Com file
517.40	3K	REDIREC.DOC	Doc on how to redirect in C/80
517.41	3K	CDUMP.C	Dump utility in Hex and ASCII
517.42	2K	CDUMP.DOC	in C/80
517.43	4K	CDUMP16.COM	Com version for 58 chr wide

VOLUME 518

DESCRIPTION:Wielerronde van Nieuwegein in CB / CBASIC

NUMBER	SIZE	NAME	COMMENTS
		CATALOG.518	CONTENTS OF CP/M VOL. 518
		ABSTRACT.518	Korte beschrijving programma's
518.1	4K	WIELROND.C	Beschrijving programma
518.2	10K	REGLMEN.DOC	Regelmenten wielerronde
518.3	5K	MAANDAG.BAS	Prog maandag
518.4	5K	MAANDAG.INT	"
518.5	6K	DINSDAG.BAS	Prog dinsdag
518.6	6K	DINSDAG.INT	"
518.7	8K	DONDERDG.BAS	Prog donderdag
518.8	7K	DONDERDG.INT	"

518.9	7K	VRIJDAG.BAS	Prog vrijdag
518.10	7K	VRIJDAG.INT	"
518.11	1K	DUMP.BAS	Hulp prog
518.12	1K	DUMP.INT	"
518.13	2K	HEAPSORT.BAS	Sorteren van de "S" Tabel
518.14	1K	HULP.BAS	Hulp prog
518.15	1K	HULP.INT	"
518.16	1K	INIT.BAS	Initialisatie wielerronde bestand
518.17	2K	INIT.INT	"
518.18	1K	INLEZEN.BAS	Inlees rout. voor renners/ploegen
518.19	4K	INVOER.BAS	Invoer prog voor rennersgegevens
518.20	2K	INVOER.IN	"
518.21	2K	PRINTR1.BAS	Print routine 1
518.22	2K	PRINTR3.BAS	" 3
518.23	2K	PRINTR4.BAS	" 4
518.24	2K	PRINTR5.BAS	" 5
518.25	2K	PRINTR6.BAS	" 6
518.26	2K	RENNLST.BAS	Produceerd lijst deelnemers
518.27	1K	RENNLST.INT	"
518.28	1K	SCHRYVEN.BAS	Schrijf rout voor renners/ploegen
518.29	3K	TYDLYST.BAS	Produceeren startlijst tijdrit
518.30	2K	TYDLYST.INT	"
518.31	3K	WSTOR4.BAS	Opmaak lijsten
518.32	2K	WSTORAGE.BAS	"
518.33	2K	MAANPLG.RIT	Files na wielronde 1983
518.34	4K	MAANJUN.RIT	"
518.35	4K	MAANSEN.RIT	"
518.36	2K	DINSPG.RIT	"
518.37	4K	DINSJUN.RIT	"
518.38	4K	DINSSEN.RIT	"
518.39	2K	DINSPG.KLS	"
518.40	4K	DINSJUN.KLS	"
518.41	4K	DINSSEN.KLS	"
518.42	2K	DONDPLG.RIT	"
518.43	2K	DONDJ12.RIT	"
518.44	2K	DONDJ13.RIT	"
518.45	2K	DONDS14.RIT	"
518.46	2K	DONDS15.RIT	"
518.47	2K	DONDPLG.KLS	"
518.48	4K	DONDJUN.KLS	"
518.49	4K	DONDSEN.KLS	"
518.50	1K	DONDJUN.TYD	"
518.51	1K	DONDSEN.TYD	"
518.52	2K	VRIJPLG.RIT	"
518.53	0K	VRIJJUN.RIT	"
518.54	4K	VRIJSEN.RIT	"
518.55	2K	VRIJPLG.KLS	"
518.56	4K	VRIJJUN.KLS	"
518.57	4K	VRIJSEN.KLS	"
518.58	9K	WIELER.BST	"

VOLUME 519

DESCRIPTION: Utilities in CB80/CBASIC

NUMBER	SIZE	NAME	COMMENTS
		CATALOG.519	CONTENTS OF CP/M VOL. 519
		ABSTRACT.519	Korte beschrijving programma
		DISAS.BAS	Interactive disassembler Z80
519.1	14K	DISAS.INT	"
519.2	10K	DISAS.OUT	Outputfile LST style
519.3	2K	DISAS.PAC	Asm output file
519.4	1K	DISASDAT.BAS	Include file for DISAS.BAS
519.5	5K	DISAS.DOC	Doc file
519.6	3K	PACK.C	Prog to modify output DISAS
519.7	2K	PACK.COM	Com file
519.8	3K	REDIREC.DOC	Doc file for Pack
519.9	3K	DPBLOCK.BAS	Disk utility in CBASIC
519.10	11K	DPBLOCK.COM	Com file
519.11	17K		

519.12	2K	DPBLOCK.DOC	Doc file
519.13	11K	DPSCHERM.COM	Schermbesturing aanpassen DPBLOCK
519.14	10K	KKKH.BAS	Spel Drie koeien en een haas
519.14	15K	KKKH.COM	"
519.15	7K	TERUG.BAS	List naar " source file converter
519.16	15K	TERUG.COM	Com file
519.17	8K	TERUG.DOC	Doc file
519.18	1K	SCHERM.	File voor terug
519.19	12K	SCHERM.COM	Aanmaken Scherm bestand v.TERUG
519.20	1K	R.COM	Ned Submit prog
519.21	1K	DOC.COM	Doc utility
519.22	1K	S.SUB	Submit file voor Terug

VOLUME 520

DESCRIPTION: Utility + asm prog I

NUMBER	SIZE	NAME	COMMENTS
		CATALOG.520	CONTENTS OF CP/M VOL. 520
		ABSTRACT.520	Korte beschrijving programma's
520.1	2K	BAUDRATE.COM	Set baudrate on Kaypro
520.2	2K	BAUDRATE.DOC	Doc file
520.3	14K	BAUDRATE.MAC	Asm file
520.4	4K	COP.ASM	Single drive copy prog.
520.5	1K	COP.COM	Com file
520.6	2K	COP.DOC	Doc file
520.7	2K	CONSOLE.LIB	Lib files of COP
520.8	2K	DISK.LIB	"
520.9	1K	HEX.LIB	"
520.10	10K	FM.DOC	File manager programm
520.11	8K	FMINSTAL.DOC	Text file voor installeren
520.12	6K	FMCONFIG.DOC	Doc file for config of FM
520.13	7K	FMDISTR.COM	Distribution file of FM
520.14	9K	FMGALAXY.ASM	Patch for GALAXY comp
520.15	14K	FMSTD.ASM	Patch for your sys Skeleton
520.16	8K	FMTTRANS.ASM	Patch for Transtec Krypton
520.17	1K	PRIMLUCL.BES	Beschrijving Luclem /Prime14
520.18	22K	LUCLEM.ASM	Lucas - Lehemer test
520.19	2K	LUCLEM.COM	Com file
520.20	5K	LUCLEM.DOC	Doc file
520.21	2K	MACRO.ACM	Macro file voor Luclem
520.22	13K	PRIME14.ASM	Prime getallen berekene
520.23	1K	PRIME14.COM	Com file
520.24	37K	RELOC.ASM	Z80 Relocatable loader
520.25	3K	RELOC.COM	Com file
520.26	4K	RELOC.DOC	Doc file

VOLUME 521

DESCRIPTION: Utilities + ASM prog II

NUMBER	SIZE	NAME	COMMENTS
		CATALOG.521	CONTENTS OF CP/M VOL. 521
		ABSTRACT.508	Korte beschrijving programma's
521.2	4K	BIOS32.TXT	Gegevens BIOS superbrain
521.4	10K	COMPFIL.ASM	Compare file op superbrain
521.5	2K	COMPFIL.COM	Com file
521.6	5K	COPY.COM	Snel Copy utility for superbrain
521.28	2K	XDIR.COM	DirUtility voor superbrain
521.21	1K	TIME.COM	Verbeterde set time in superbrain
521.22	1K	TRACK.COM	Set track utility for superbrain
521.23	1K	TRACK.DOC	Doc file
521.24	2K	UNERA3.COM	UNERA for CP/M 3.0
521.8	9K	DU3.COM	Disk Utility for CP/M plus DU 3.0
521.9	2K	LISTEN.COM	Communicatie prog tussen twee sys
521.10	4K	LISTEN.HEX	Hex file hier van

521.11	8K	LISTTALK.DOC	Doc file
521.13	1K	TALK.COM	Andere zijde van Listen
521.7	75K	DASM.MAC	DASM for 8086
521.25	10K	XDASM86.COM	"
521.26	2K	XDASM86.DOC	"
521.27	22K	XDASM86.MAC	"
521.14	3K	TEST.A86	Test file for XDASM86
521.15	1K	TEST.COM	"
521.16	1K	TEST.CTL	"
521.17	1K	TEST.DOC	"
521.18	7K	TEST.LST	"
521.19	1K	TEST.SYM	"
521.20	3K	TEST.X86	"

VOLUME 522

DESCRIPTION: Bibliografisch system Webb Dbase II
Bestand beheer prog RAMP/FM - REPUBLIC

NUMBER	SIZE	NAME	COMMENTS
		CRC.COM	
		CATALOG.522	CONTENTS OF CP/M VOL. 522
		ABSTRACT.522	Korte beschrijving programma's
522.1	2K	WEBB.DOC	Bibliotheek doc
522.2	1K	ALFAPR.CMD	Command files
522.3	1K	ALFASORT.CMD	"
522.4	1K	AUTEUR.CMD	"
522.5	1K	BIBLIO.CMD	"
522.7	1K	BKILL.CMD	"
522.8	1K	BOEKED.CMD	"
522.9	2K	BPEEP.CMD	"
522.10	1K	EVELMEN.CMD	"
522.11	1K	FILEMEN.CMD	"
522.12	5K	HELP.CMD	"
522.13	1K	INPRINT.CMD	"
522.14	1K	MAGAZ.CMD	"
522.15	3K	MAIN.CMD	Main Command file
522.16	1K	OPDATE.CMD	Command files
522.17	1K	PBIBLIO.CMD	"
522.18	2K	PEEP.CMD	"
522.19	1K	PMAGAZ.CMD	"
522.20	1K	SEARCH.CMD	"
522.21	2K	TEKST.CMD	"
522.22	1K	TITEL.CMD	"
522.23	1K	TKILL.CMD	"
522.24	2K	TOEVOER.CMD	"
522.25	2K	TPEEP.CMD	"
522.26	1K	BIEB.DBF	Bib base files
522.27	1K	EVEL.DBF	"
522.28	1K	INVOER.DBF	"
522.29	1K	MAGAZ.DBF	"
522.30	5K	FILEDEF.ASC	Bestandendefinitie voor Republic
522.31	1K	GENHULP.SUB	Hulp file voor RAMP/FM
522.32	7K	JOINRAMP.ASC	Merg-utility voor RAMP/FM
522.33	37K	RAMPDOC.TXT	Dokumentatie RAMP/FM
522.34	11K	RAMPFM.ASC	Database voor hulpbestanden
522.35	6K	RAMPFM.REM	Remarks RAMP/FM.ASC mergefile
522.36	6K	RAMPGEN.ASC	Parm generator RAMP/FM
522.37	10K	REPDEF.ASC	" REPUBLIC
522.38	9K	REPUBLIC.ASC	Rapportgenerator MBASIC prog
522.39	34K	REPUBLIC.DOC	Doc file
522.40	4K	REPUBLIC.REM	Remarks REPUBLIC mergefile
522.41	2K	SCREENDF.ASC	Term install prog RAMP/REPUBLIC

VOLUME 523

DESCRIPTION: Kermit CP/M 80 Vers 3.2

NUMBER	SIZE	NAME	COMMENTS
		CATALOG.523	CONTENTS OF CP/M VOL. 523
		ABSTRACT.523	Korte omschrijving programma
523.1	137K	CPMGEN.ASM	Source kermit
523.2	4K	CPMKER.DOC	Doc voor CP/M 80 Kermit
523.3	6K	FLYER.TXT	Introduction Kermit
523.4	16K	KERMIT.COM	Version for EXIDY
523.5	3K	KERMIT.TXT	Beschrijving disk
523.6	34K	USER.DOC	User manual Kermit (uittreksel)

VOLUME 524

DESCRIPTION: C prog van Frans curvers: HIFI versie 1.4 FCFC File copy single drive CATALFC Disk catalogus prog single drive

NUMBER	SIZE	NAME	COMMENTS
		CATALOG.524	CONTENTS OF CP/M VOL. 524
		ABSTRACT.524	Korte omschrijving programma,s
		CATALFC.C	Catalogus-programma
524.1	17K	CATALFD1.COM	Verschillende versies zie doc.
524.2	12K	CATALFD2.COM	"
524.3	12K	CATALFD3.COM	"
524.4	11K	CATALFS1.COM	"
524.5	11K	CATALFS2.COM	"
524.6	3K	FC.DOC	Doc file voor fcfc en catalogfc
524.7	17K	FCFC.C	File copy programma
524.8	9K	FCFC.COM	Object file zonder user
524.9	10K	FCFCU.COM	Object file met user
524.10	1K	UPDCRC.CRL	Hulpfile voor comp FCFC
524.11	4K	HIFI.H	Headerfile HIFI
524.12	17K	HIFI.C	source HIFI
524.13	3K	HIFI1.C	"
524.14	8K	HIFIA.C	"
524.15	5K	HIFID.C	"
524.16	7K	HIFIS.C	"
524.17	3K	HIFIT.C	"
524.18	6K	HIFIW.C	"
524.19	1K	HIFI.SUB	Submit file voor compilatie
524.20	10K	HIFI.COM	Object file HIFI
524.21	3K	HIFIA.OVL	Overlays
524.22	2K	HIFID.OVL	"
524.23	3K	HIFIS.OVL	"
524.24	1K	HIFIT.OVL	"
524.25	2K	HIFIW.OVL	"
524.26	4K	HITOTXT.C	Ombouw vanuit dbase II files
524.27	5K	HITOTXT.COM	"
524.28	4K	TXTOHI.C	Ombouw naar dbase II files
524.29	6K	TXTOHI.COM	"
524.30	4K	HIFI.DQC	Doc gesqueezed
524.31	18K	HIFI.MQN	Handleiding gesqueezed
524.32	7K	HIFIINST.COM	Install prog hifi
524.33	10K	USQ.COM	Unsqueeze prog

DESCRIPTION: PEGEL VERSIE 2.1

NUMBER	SIZE	NAME	COMMENTS
		CATALOG.525	CONTENTS OF CP/M VOL. 525
		ABSTRACT.525	Korte Omschrijving programma's
		BDG.QQQ	Files PEGEL 2.1 GESQUEEZED
525.1	6K		
525.2	11K	BDGPRINT.BQS	
525.3	22K	BDGPRINT.CQM	
525.4	12K	BUDGET.BQS	
525.5	24K	BUDGET.CQM	
525.6	2K	CONVBDDG.BQS	
525.7	12K	CONVBDDG.CQM	
525.8	13K	PEGEL.BQS	
525.9	25K	PEGEL.CQM	
525.10	5K	PGL.QQQ	
525.11	4K	PGL-BDG.BQS	
525.12	4K	PGL-BDG.CQM	
525.13	4K	PGLINIT.BQS	
525.14	16K	PGLINIT.CQM	
525.15	5K	PGLJAAR.BQS	
525.16	17K	PGLJAAR.CQM	
525.17	7K	PGLPRINT.BQS	
525.18	19K	PGLPRINT.CQM	
525.19	2K	PGLREC.BQS	
525.20	13K	PGLREC.CQM	
525.21	6K	README.TQT	

PEGEL: maintenance rapport. Dit rapport is een bijlage bij de documentatie (CP/M nummer:5409490) van het boekhoudpakket PEGEL. Een aantal programma's is gewijzigd, de wijzigingen zijn zowel correcties als verbeteringen. Per programma zal worden aangegeven welke wijzigingen(en waarom) er zijn aangebracht. De listing van de gewijzigderegels is ook opgenomen zodat deze bijlage samen met de oorspronkelijke documentatie een compleet geheel vormt. Als uitbreiding is het programma BDGPRINT toegevoegd (zie verder) Opmerking. Ik heb een relatief groot aantal telefoontjes gehad van gebruikers die bij het eerste gebruik de foutmelding "illegalfunction call" kregen. De oorzaak hiervan is dat de datafiles PGL en BDG gesqueezed op de schijf zijn aangebracht en dus eerst moeten worden USQ (unsqueezed). Als de foutmelding optreedt, is ook de file PGL aangemaakt (met nul records); deze file kan dan uiteraard worden verwijderd.

Lees s.v.p de documentatie en het artikel in de Software-bus 85-1!!

N.B. Bij de eerste verspreiding (schijf 508) was het programma LIQ.BAS ten onrechte verspreid. Dit programma kan zonder meer worden verwijderd.

Formats available for the Software Library

5¼" Formats

- | | | | |
|----|---|----|--|
| 0 | Tuscan 5" SSDD (and Wren) | 30 | Cromemco 5" SSDD |
| 1 | Tuscan 5" DSDD | 31 | Cifer 2864 5" DS |
| 2 | Tuscan DS 80-track DD | 32 | Videcom |
| 3 | TS100 Saracen 5" DS | 33 | IBM PC SSDD CP/M 8 spt |
| 4 | Triton 5" DD | 34 | Gemini QD DSDD 80-track |
| 5 | Hewlett Packard 5" (HP-86, HP-125) | 35 | Nascom Gemini G805 DSDD |
| 6 | DEC Rainbow | 36 | Iotec Iona DSDD 40-track |
| 7 | DEC VT180 | 37 | Cifer H DSDD 40-track |
| 8 | Rair Black Box/ICL PC 40-track | 38 | RML 480Z SSDD |
| 9 | Epson QX-10 & HX-20 | 39 | DTI Bullet DSDD 80-track
(and Jet 80) |
| 10 | Newbrain 5" 40-track SS | 40 | Lucas Logic SSDD 80-track |
| 11 | RML 5" SSDD | 41 | Televideo 803, 806 40-track DSDD |
| 12 | Acorn Z80 2nd Processor SSDD
80-track | 42 | Televideo 802 40-track DSDD |
| 13 | Superbrain SSDD | 43 | Pied Piper DSDD 80-track |
| 14 | Superbrain quad density DS | 44 | Future FX20, FX30 and Tiger DSDD
80-track |
| 15 | Superbrain DQD 80-track DS | 45 | Micronix MX400 SSDD 40-track |
| 16 | Sirton 5" DS | 46 | Micronix MX400 SSDD 40-track |
| 17 | IBM PC DSDD CP/M 8 spt | 47 | Sanyo MBC2000 SSDD 80-track |
| 18 | Osborne SSDD | 48 | I.T. Andromeda Alfa D SSDD
80-track |
| 19 | Osborne SSDD | 49 | Ceedata 8200 DSDD 40-track |
| 20 | NEC PC8001a | 50 | British Micro Mimi 805 DSDD
40-track |
| 21 | ICL DRS20 Models 20, 25, 102, 125,
128 | 51 | LSI Octopus DSDD 80-track |
| 22 | Shelton Signet 5" DSDD | 52 | Sharp MZ80A/MZ80B DSDD 40-track |
| 23 | Rediffusion Alpha 3 | 53 | Spectravideo SV238 SSDD 40-track
(Xerox 820-II) |
| 24 | Caltext Wordprocessor | 54 | Acorn Z80 2nd Processor DSDD
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- 61 Tatung Einstein 40-track SSDD
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DSDD 80-track
- 63 Memotech FDX DSDD 40-track
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- 68 Amstrad CPC464/664 System
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- 69 Amstrad CPC464/664 Data format
- 70 Andromeda Zita P3
- 71 Logica VTS2000
- 72 British Micro Mimi 801
- 73 Triumph Adler

- 74 Tiki 100
- 75 IBM PC CP/M 9 spt
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- 78 Equinox IMS5000
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- 80 Cromemco DSSD 40-track
- 81 Lynx CP/M SSDD 40-track

8" Formats

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- 2 Tuscan 8" DS
- 3 IBM 3740 SSDD
- 4 Sirton 8" DS
- 5 Toshiba 8" Wordprocessor
- 6 TRS80 Model 2 SSDD
(Pickles & Trout)
- 7 Altos 8" SSDD
- 8 ICL DRS 8" DSDD (CP/M)
- 9 Clenlo 8" SSDD
- 10 Racal series 6000 SSDD 8"
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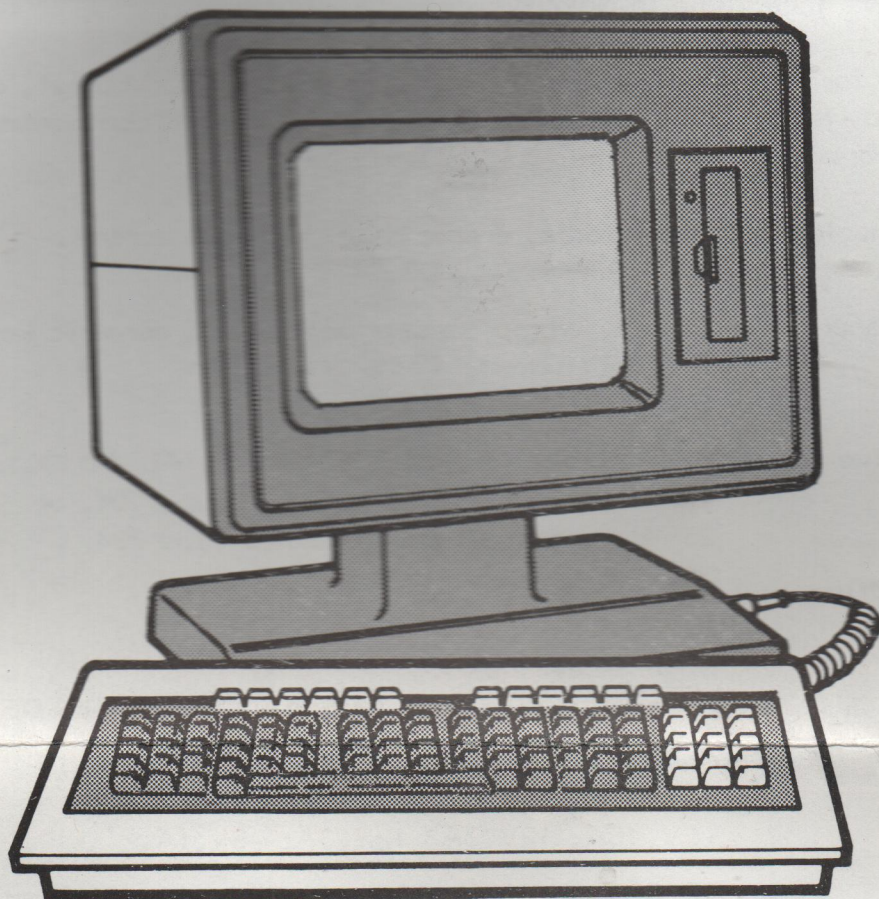
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